**BEST GIFTS** Systems, Games, CDs, and More

Now incorporating MacUser

JANUARY 1998

# Macworld

THE ESSENTIAL MACINTOSH® RESOURCE

www.macworld.com

# Apple Delivers

## TOP SPEED, LOW PRICE CHANGE THE RULES

- $2,000 Desktop Demon
- PowerBook Beats Pentium

La Cie Electron21™ and the La Cie logo are trademarks of La Cie, Ltd. © Copyright 1997 La Cie, Ltd. All rights reserved.

**Executions always look better from inside the hood.**

Introducing the La Cie Electron21,™ the monitor with the color-enhancing Blue Hood.

LACIE

**Circle 52 on reader service card**

JANUARY 1998

# Macworld

## Holiday Gift Guide

**78**
**Read our list. Check it twice. It's got gifts in every price. Games, CDs, systems, and more.**

**80**
**Great Games**
BY STEVEN LEVY AND CAMERON CROTTY Get out your joysticks: it's the 1998 Game Hall of Fame.

**87**
**Stellar CDs**
BY WENDY SHARP Pick a gift from *Macworld*'s favorite CDs.

**93**
**Bargain Systems**
BY ALLYSON BATES Get a great deal on a new Macintosh for less than $2,000.

**98**
**Irresistible Extras**
Treat your friends (or yourself!) to these fun finds.

## Features

**68** **Apple's Next-Generation Systems**
BY ALLYSON BATES The PowerPC 750 debuts at an amazing price, bringing top power to everyone.

**74** **Fastest Laptop Yet**
BY HENRY BORTMAN The newest PowerBook retakes the lead over PC notebooks.

## News

**22** **Apple Ships Rhapsody**
Developers get their first look at Apple's new operating system, but the Mac OS still rules.

Special Report
**24** **Coming Soon to a Service Bureau Near You**
Digital presses offer better personalization; large-format ink-jet printers make great strides.

**26** **Macromedia Unplugged**
The Universal Media Initiative lets you view Shockwave and Flash animations without special plug-ins.

Sneak Peek
**28** **Bryce 3D**
MetaCreations adds animation to the 3-D–landscape generator.

## MacUser

GraphicsUser
**117** **10 Typographical Blunders**
BY KATHLEEN TINKEL Don't be type negative.

GraphicsUser
**122** **Mixing Color and Gray Scale**
BY SHERRY LONDON Show more restraint than Ted Turner.

NetUser
**125** **Walking the Browser Tightrope**
BY JASON SNELL Be the Switzerland of Web publishing.

SmartUser
**126** **Have Mac, Will Do Windows**
BY SCOTT BURY Adapt without being assimilated.

SmartUser
**128** **Help Folder**
BY BOB LEVITUS AND CHRISTOPHER BREEN Bob and Chris answer all your questions.

MaxUser
**132** **The Forbidden Mac**
BY CHRISTOPHER BREEN Sex, drugs, and Windows 95.

Andy Ihnatko
**134** **Transitions**
BY ANDY IHNATKO He's quite aware of what he's going through: ch-ch-ch-ch-changes.

Capture the moments, with the MP-EG1A, in Reviews, page 46.

Large-format ink-jet printers, in News, page 25.

# Opinion


**13 Letters**

**17 The Vision Thing**
BY ANDREW GORE The Mac is a great game machine.

**194 The Desktop Critic**
BY DAVID POGUE Steve Jobs in *It's a Wonderful Legacy.*

**8 How to Contact Macworld**


# Secrets


**103 Calmly Coping with File Disasters**
BY JOSEPH SCHORR Mac Heimlich maneuvers.

**105 Quick Tips**
BY LON POOLE Tips, tricks, and shortcuts.


# Tribute


**31 Remembering Cary Lu**
BY CATHY ABES *Macworld* says goodbye to a dear friend and an incredible colleague.


# Media


Special Report
**108 Publishing Workshop**
BY DAVID BLATNER AND GALEN GRUMAN QuarkXPress yourself with version 4.0.

**114 Graphics Workshop**
BY CATHY ABES Simple salvaging techniques in Photoshop.


ON THE COVER
*Product photograph by Paul Franz-Moore; photo manipulation by Bert Monroy*

Quicken personal-finance package gets richer, in Reviews, page 38.

# Reviews


**38 ★★★/6.9 Quicken Deluxe 98**
Personal-finance software

**40 ★★★★/7.1 Maxpowr Pro 250/125;**
**★★★★/7.2 Maxpowr Pro+ 266/177**
PowerPC 750 upgrade cards

**41 ★★★★/8.3 ClarisWorks Office**
Productivity suite

**42 ★★★/5.6 Act 2.8;**
**★★/4.0 Lotus Organizer 97 GS**
Personal information managers

**43 ★★/4.1 DeltaVideo 1.1;**
**★★★★/8.2 DigitalRadar**
Motion-detection software

**44 ★★★/5.7 Commotion 1.0.5;**
**★★/4.5 Illuminaire Paint 1.1**
Video-painting software compared

**46 ★★★/6.4 MP-EG1A**
Digital-video camera

**48 ★★★/5.9 Cubasis AV**
Audio and MIDI package

**50 ★★/4.8 Family Tree Maker Deluxe Edition II 3.02;**
**★★★★/8.7 Reunion 5.02**
**★★/3.0 Ultimate Family Tree Deluxe**
Genealogy programs compared

**52 ★★★/6.5 FirstClass Intranet Server**
Messaging system/intranet server

**54 ★★★★/8.4 Apple Network Administrator Toolkit 2.0**
Educator-oriented suite

**56 ★★/4.5 PrimeraPro Elite**
Second look: Dye-sub/thermal-wax printer

**56 ★★★★/8.5 Timbuktu Pro 4.0**
Remote-access and -control package

**58 ★★★/5.2 Private File 2.0**
Encryption utility

**58 ★★★★/7.2 Vibe Enterprise 1.0.1**
Java tools for business

**60 ★★★/6.0 FlashBack**
File-recovery utility

**60 ★★★★/8.6 MathType 3.5**
Equation-generation utility

**62 ★★/4.8 NetCenter Internet Station**
LAN Internet router

**64 ★★★★/8.2 Power3D**
3-D–acceleration card for games

# AnthroCarts®!

## Configure them the way you want!

**See all these and *more* in our free catalog, then call us direct to order. We'll ship to you the very next business day!**

**800-325-3841**
*6:00 AM to 6:00 PM PST, M-F*

ANTHRO®

**Anthro Corporation®**
**Technology Furniture®**
Tualatin, OR 97062
Fax: 800-325-0045
Japan: 03 (Tokyo)-3947-2735
**www.anthro.com**

Lifetime Warranty. Dozens of shapes and sizes, over 75 accessories.
Since 1984. Prices from $299. GSA contract. Available for OEM applications.


# Macworld


| | |
|---|---|
| EDITOR IN CHIEF | Andrew Gore |
| EXECUTIVE ASSISTANT | Patricia Carberry-Harris |

### EDITORIAL

| | |
|---|---|
| EDITOR | Galen Gruman |
| EXECUTIVE EDITOR | Carol Person |
| SENIOR EDITOR/NEWS | Stephen Beale |
| SENIOR EDITOR/FEATURES | Elizabeth Dougherty |
| SENIOR EDITOR/REVIEWS | Anita Epler |
| SENIOR EDITOR/DEPARTMENTS | Nancy Peterson |
| SENIOR TECHNOLOGY EDITOR | Henry Bortman |
| SENIOR ASSOCIATE EDITORS | Cathy E. Abes, Linda Comer, Jason Snell, Katherine L. Ulrich |
| ASSOCIATE EDITORS | Allyson Bates, Keith Mitchell, Scholle Sawyer, Brooke C. Wheeler |

### CONTRIBUTING EDITORS

David Biedny, Christopher Breen, Bruce Fraser, Ted Landau, Deke McClelland, David Pogue, Lon Poole, Joseph Schorr, Franklin N. Tessler

### LAB

| | |
|---|---|
| LAB DIRECTOR | Jeffrey S. Pittelkau |
| ASSISTANT LAB DIRECTOR | Susan Silvius |
| SENIOR LAB ANALYSTS | Jeffy K. Milstead, Kevin Mitchell |
| ASSOCIATE LAB ANALYST | Gil Loyola |

### COPY EDIT

| | |
|---|---|
| MANAGING EDITOR | Claire H. Breen |
| COPY CHIEF | Paul-Michael King |
| SENIOR TECHNICAL COPY EDITOR | Rhoda Simmons |
| SENIOR COPY EDITOR | Jon Zobenica |

### ART AND DESIGN

| | |
|---|---|
| DESIGN DIRECTOR | Eleanor Leishman |
| ART DIRECTOR | Sylvia Chevrier |
| ASSOCIATE DESIGNERS | Martha Katt, Michael Rattary |
| LAYOUT ARTIST | Jackie Goodman |


This issue is dedicated to the memory of Cary Lu.

# THESE DAYS, IT TAKES A LOT MORE MEMORY TO BE YOUR BEST.

**MANY OF THE MASTERPIECES** created on a Macintosh have one very powerful ingredient in common: Kingston memory. As software becomes more and more complex, memory demands go up. Of course, it's not only the amount of memory that matters, it's the quality. Nobody understands that better than Kingston. We test 100% of our modules. In fact, we test every cell on every chip on every module. On a 16 megabyte module, that's 128 million cells. Only the modules that survive get the Kingston name. That's why we're an Authorized Apple RAM Developer and committed to selling the highest quality Macintosh memory. After all, your best work is a showcase for our best work. To find Kingston memory that was made specifically for your Macintosh, just call (800) 259-8965.

www.kingston.com/ad

Kingston TECHNOLOGY
COMPUTING WITHOUT LIMITS™

Kingston Technology Company, 17600 Newhope Street, Fountain Valley, CA 92708, USA. (714) 435-2600, Fax (714) 435-2699. © 1997 Kingston Technology Company.
All rights reserved. Computing Without Limits is a trademark of Kingston Technology Company. All other trademarks and registered trademarks are the property of their respective owners.

**Circle 201 on reader service card**

# ZIP!ZIP!ZIP!ZIP!ZIP

## VST Puts a Little Zip™ in your PowerBook

zip BUILT-IN

VST proudly introduces the Zip100 drive, a Zip drive designed for use in the PowerBook 3400, 190/5300 and 1400 Expansion Bay. VST Zip100 drives use the same disks as Iomega's desktop version, each storing up to 100MB of data. Zip disks are ideal for backing up important files, for archiving data, and for cleaning up crowded hard drives. Transferring large files and databases from your PowerBook to your desktop machine is now quick and easy using Zip disks.

**Available At:**

The Mac Zone 1-800-248-0800 MV02

MacWAREHOUSE 1-800-255-6227

ClubMac® 1-800-258-2622

MacConnection 800-998-0040

MacMall 1-800-222-2808

VST TECHNOLOGIES Incorporated

**Visit Us At: www.vsttech.com**

Questions? Call Us At: (508) 263-9700

Iomega, the Iomega logo, Zip, and The Capacity To Do More are trademarks of Iomega Corporation. All other trademarks are property of their respective holders. Iomega patents protected by patent applications pending in the US and other countries.

iomega

**Circle 73 on reader service card**



# Macworld

| | |
|---|---|
| PRESIDENT AND CEO | Colin Crawford |
| ASSISTANT TO THE CEO | Sharon Sanderson |
| CHIEF FINANCIAL OFFICER | Stephen Daniels |
| FINANCIAL ANALYST | Eos de Feminis |
| VICE PRESIDENT OF HUMAN RESOURCES | Shelly Ginenthal |
| EMPLOYEE RELATIONS MANAGER | Marisa Chow |

*Macworld* is a publication of Mac Publications, L.L.C.

**DISPLAY ADVERTISING SALES**

| | |
|---|---|
| PUBLISHER | Matt Sweeney (415/978-3271) |
| NATIONAL SALES DIRECTOR | Steve Plevin (415/978-3138) |
| SALES DEPARTMENT ADMINISTRATOR | Nancy Galanty (415/978-3124) |
| SALES/MARKETING COORDINATOR | Glenn Munlawin (415/974-7350) |
| WESTERN ADVERTISING DIRECTOR | Karl Elken (415/978-3155) |
| ACCOUNT EXECUTIVE | Christine Wong (415/978-3192) |
| NATIONAL ACCOUNTS MANAGER | Liz Pabón (415/978-3192) |
| ACCOUNT EXECUTIVE | Jessica Ross (415/267-1799) |
| NATIONAL ACCOUNTS MANAGER | Sara Culley (310/545-0646) |
| ACCOUNT EXECUTIVE | Margaret Level Green (415/267-4577) |
| EASTERN ADVERTISING DIRECTOR | Cynthia Ramsey (201/243-1197) |
| NATIONAL ACCOUNTS MANAGER | Paul Bonarrigo (508/533-4020) |
| NATIONAL ACCOUNTS MANAGER | Lisa Ladle-Wallace (904/284-4972) |
| ACCOUNT EXECUTIVE | Jo Zotterelli (516/277-4134) |

**RESEARCH**

| | |
|---|---|
| RESEARCH DIRECTOR | Linda Lawrence |
| SENIOR RESEARCH ANALYST | Phillip Hibbert |

**MARKETING**

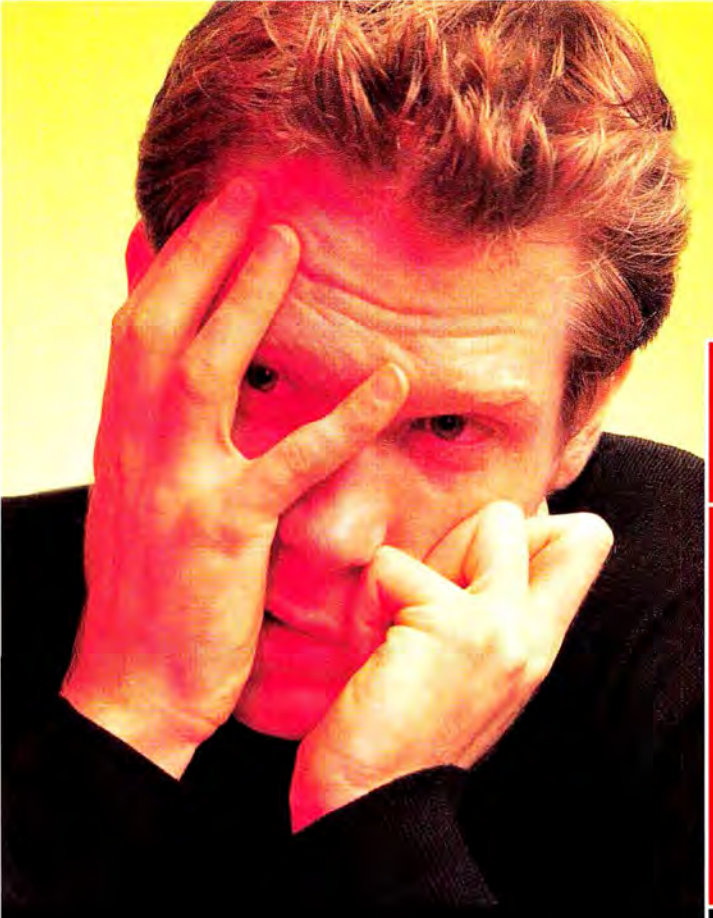
| | |
|---|---|
| MARKETING MANAGER | Kelvin Gee |
| MARKETING MANAGER | Renée Bula |
| EVENTS MANAGER | Anna Noetzel |
| MARKETING COORDINATOR | Stephanie Walter |

**PRODUCTION**

| | |
|---|---|
| VICE PRESIDENT OF MANUFACTURING | Anne Foley |
| PRODUCTION MANAGER | Cynthia Neustadt |
| ASSISTANT PRODUCTION MANAGER | David W. McAferty |
| DTP COORDINATORS | Clayton Haberman, Brian Mullin |

**ONLINE**

| | |
|---|---|
| PUBLISHER | Jeff Julian |
| NATIONAL ACCOUNTS MANAGER | Ed Ramirez |
| ACCOUNTS MANAGER | Nicholas Harvey |
| MEDIA COORDINATOR | Jamila Johnson |
| EDITOR | James S. Bradbury |
| SHAREWARE EDITOR | Philip W. Dyer |
| ONLINE PRODUCTION EDITOR | Roxanne Gentile |
| CONTENT ENGINEER | Caius van Nouhuys |
| ASSISTANT CONTENT ENGINEER | Jessica Graves |



iXMICRO™

# what you do:

**redraw, stress**
**scroll, stress**
**render, stress**
**rasterize, stress**
**model, stress**
**filter, stress . . .**

# what we do:

**make all of the above happen faster than you've ever dreamed. (without the stress)**

From the makers of TwinTurbo® come the powerful, perfectly balanced graphics board solutions you've been hoping for. With ix3D Ultimate Rez and ix3D Pro Rez, you eliminate those long, gut-wrenching moments spent waiting for your computer to execute the 2D, 3D and video functions on which your creativity depends. ix3D takes the stress out of understanding, selecting, affording and using the perfect graphics accelerator for your individual needs:

**ix3D Ultimate Rez** for graphics experts who need all the power they can get to drive today's largest monitors at extreme resolutions and color depths-while maintaining fast, ergonomic refresh rates. Ideal for 2D, 3D and CAD applications like Adobe Photoshop, QuarkXPress, Electric Image, LightWave 3D, Strata Studio Pro and Microstation.

**ix3D Pro Rez** optimizes the performance and value for users who need uncompromising graphics power and who routinely operate 17-19" monitors at moderate resolutions like 1152 x 870.

**ix3D Mac Rocket** is perfect for home and office users, providing a blast of pure 128-bit 2D graphics power to common operations like image scrolling or text draws, and outrageous 3D performance for lightning fast, realistic 3D gameplay.

All the ix3D boards are powered by IXMICRO's new 128-bit controller, the TwinTurbo 128-3D. Just look for ix3D at your favorite retailer, or check out our web site for more details. **And stop stressing.**

**ix3D™**

www.ixmicro.com

POWERED BY
TWIN TURBO
128-3D

1997 IXMICRO® TwinTurbo® is a registered trademark of IXMICRO. All rights reserved. All other product and company names are property of their respective owners.

**Circle 53 on reader service card**

# PC Compatibility?

# Don't get a Virtual Lemon...

# Squeeze OrangePC® in Your Apple

Sometimes you must run a PC application on your Mac. The OrangePC® is an expansion card which allows you to run both Mac and PC programs simultaneously. It magically transforms your Apple into a dual computer platform which can support Windows®NT, Windows®95, Windows® 3.1 or DOS. It makes thousands of PC applications compatible with your Macintosh system.

If you have a PCI based Performa (7" expansion slot), a full-sized PCI Power Macintosh compatible (12" slot) or a NuBus based Quadra, there's an OrangePC solution that's right for you. Whether you are budget sensitive, or performance hungry, you may select a low end processor, or one as fast as our exclusive Pentium® 233MHz with MMX™ technology.

And, the OrangePC is affordable, with prices starting at $499.

*The technical stuff: OrangePC models come in 7" or 12" PCI, and NuBus card types; up to Pentium 233MHz MMX; RAM from 8 to 256MB on board; up to 256K pipeline burst L2 cache; parallel port (for those delightful PC dongles); 2 high speed serial ports; 16 bit Sound Blaster® compatible In/Out; game port; one or two MB of video DRAM.*

Call us today, and squeeze an OrangePC in your Apple.

Orange Micro® inc.

*"17 Years of Innovation and Excellence"*
1400 N. Lakeview Ave., Anaheim, CA 92807
(714) 779-2772 www.orangemicro.com

© Orange Micro, Inc., 1997

**Circle 33 on reader service card**



# Macworld

**HOW TO CONTACT MACWORLD**

**Subscription Questions**

| | |
|---|---|
| Phone | 303/665-8930 |
| Fax | 303/604-7455 |
| U.S. Mail | Subscription Services |
| | P.O. Box 54529, Boulder, CO 80322 |
| America Online | Keyword Macworld |
| World Wide Web | http://subscribe.macworld.com/service/ |

**Reprints and Permissions**

You must have permission before reproducing any material from *Macworld*. Write to *Macworld*, Reprints and Permissions, 501 Second St., San Francisco, CA 94107; include a phone number. To order reprints of your company's editorial coverage, call 800/217-7874.

**Back Issues of Macworld**

Back issues are $7 per issue for U.S. delivery ($12 overseas); prepayment in U.S. funds is required. Make checks or money orders payable to Macworld Magazine and mail along with a written request to Macworld Back Issues, c/o Synder Newell, P.O. Box 7046, San Francisco, CA 94120-9727. Readers can obtain newsstand premiums by mailing a check for $2.95 (for shipping and handling) to *Macworld*, Newsstand Promotions, 501 Second St., San Francisco, CA 94107; please state CD title and issue, and include your name and address for shipping.

**Macworld in Microfilm**

*Macworld* is available on microfilm and microfiche from UMI, 300 N. Zeeb Rd., Ann Arbor, MI 48106-1346; 313/761-4700.

**Macworld Editorial**

The editors of *Macworld* welcome your tips, compliments, or complaints. We are unfortunately unable to look up stories from past issues, recommend products, or diagnose your Macintosh problems by phone, e-mail, or fax. Contact Apple toll-free at 800/538-9696, ext. 500, for information on user groups in your area.

Our offices are located at 501 Second St., San Francisco, CA 94107; 415/243-0505, fax 415/442-0766.

LETTERS TO THE EDITOR Direct all comments and suggestions regarding any aspect of the magazine to letters@macworld.com. Due to the high volume of mail received, we can't respond personally to each letter. We reserve the right to edit all submissions. All letters published in *Macworld* or Macworld Online become the property of *Macworld*.

QUICK TIPS Send your questions or tips on how to use Mac computers, peripherals, or software to the attention of *Macworld, Quick Tips*, 501 Second St., San Francisco, CA 94107; fax 415/442-0766; e-mail quicktips@macworld.com. Please include your name, address, and telephone number.



*Macworld* is a publication of Mac Publications, L.L.C. *Macworld* is an independent journal not affiliated with Apple Computer, Inc. *Macworld, MacUser, MacWeek, Macworld Interactive, Macworld Shopper, MW, MW Lab, MW Shopper, The Desktop Critic, Expert Graphics, Quick Tips, Star Ratings, Buyers' Tools, Streetwise Shopper,* and *Conspicuous Consumer* are registered trademarks of Mac Publications, L.L.C. *Apple*, the Apple logo, *Mac*, and *Macintosh* are registered trademarks, and *MacLetter* and *PowerBook* are trademarks, of Apple Computer, Inc. Printed in the United States of America. Copyright © 1998 Mac Publications, L.L.C. All rights reserved.

BPA

# Out of Your Mind!

## Introducing Nexus GA from ATI

From your brain to the big screen and the printed page faster than you can change your mind – ATI's Nexus GA will dramatically improve the graphics capabilities of your Macintosh computer. Specifically designed for graphics professionals and content creators, ATI Nexus GA offers high-performance 2D and 3D graphics in one affordable, easy-to-install board.

Nexus GA offers no-compromise 2D graphic performance with true color in all the modes you demand up to 1920x1080. Work better and faster in all your favorite applications like PhotoShop, and Infini-D, with 8MB of WRAM memory upgradeable to 16MB.

Plus, with Nexus GA's 3D functionality and QuickDraw 3D™ support you can add 3D elements to any of your design and multimedia projects. Nexus GA will take your content creation to new heights with a full suite of 3D tools and workstation-class performance.

And because Nexus GA is from ATI, makers of award-winning graphics accelerators for Macintosh computers, you can rest easy that Nexus GA will work seamlessly with your applications. Nexus GA – fastest, high resolution true color performance – to choose anything else you'd have to be out of your mind.

© Copyright ATI Technologies Inc. 1997. ATI, 3D RAGE PRO, and NEXUS are trademarks, or registered trademarks of ATI Technologies Inc. All other company and/or product names are trademarks and/or registered trademarks of their respective manufacturers. †MacBench 4.0 Hi Res Publishing Mixes Tested on a PowerMac 9600/200 32MB. All Boards had 8MB. Test Mode: 1280x1024x75 Hz @32bpp.Tested using Driver Versions: ATI RAGE PRO 3.0 / IXMicro TwinTurbo 4.0.2 / Matrox Millennium 2.10. Features and specifications are subject to change without notice.

COMPUTER City 1-800-The City

CDW 1-800-363-4239

MICRO CENTER

Mac Warehouse 1-800-255-6227

**Circle 256 on reader service card**

**Now You See It.™**

**www.atitech.com/macwo**

ATI

Fiery Driven is a trademark of Electronics for Imaging, Inc. © 1997 Ricoh Corporation

## Not The Bike.
## The Digital Color Copier.

**Aficio Color™ 2003**

Digital Color + Productive B & W

Unique optional embedded Fiery

Network printer-scanner option

Prints up to 11 x 17 format

**$14,895. A Digital Color Copier For Every Department, Every Company.**

Brilliant color every office can afford.

Spectacular presentations instantly.

Experience the productivity of easy, digital features for thousands less.

Get a demo of the kind of colorful future your office can enjoy, from the #1 maker of digital copiers in the USA. Call 800 63 RICOH.

Online www.ricoh-usa.com

fiery driven®

RICOH®

Image Communication

Circle 4 on reader service card

# Don't Be Fooled By Imitations!

## Insist on XANTÉ Products With Genuine Adobe® PostScript® 3™!

Don't settle for an imitation. Get the real thing!

XANTÉ® customers demand the best. That is why XANTÉ guarantees true Adobe PostScript on all of our products. And we don't stop there.

With XANTÉ's line of high resolution laser printers, computer-to-film, and computer-to-plate devices, you'll receive the most technologically advanced features available on the market today:

- Up To 1200 x 1200 DPI Resolution
- Oversized 11" x 17" Printing Up To 12" x 25"
- Negative Enhanced Imaging Technology (NEIT) For Quality Negative Film
- Accurate Calibration Technology (X-ACT™) For Precise Dimensional Accuracy
- Densitometer Support
- Halftone Calibration Technology and much more!

*Accept No Substitute! - Call XANTÉ today...*

***800-926-8839*** *Ext. 2144*

*Dealers Call Ext. 2145*

*www.xante.com*

Adobe® PostScript® 3™

XANTÉ
*Innovations in Printing Technology*

© 1997 XANTÉ CORPORATION. XANTÉ, Accel-a-Writer, and X•ACT are trademarks or registered trademarks of XANTÉ CORPORATION. Adobe, PostScript, PostScript 3, and the PostScript logo are trademarks of Adobe Systems Incorporated. Other brands and product names are trademarks or registered trademarks of their respective holders. XANTÉ CORPORATION, 4621 Spring Hill Ave., Mobile, AL 36608, P.O. Box 16526, Mobile, AL 36616-0526, Phone: (334) 342-4840, Fax: (334) 342-3345.

# Letters

## Apple-soft?

CONGRATULATIONS, *MACWORLD*, for realistically reporting on the alliance that former rivals Microsoft and Apple have recently formed ("Apple Forges Alliance with Microsoft," *News*, October 1997). Your coverage should be compared with the ridiculous media babble usually associated with Apple. Thank you for focusing on Apple's recent accomplishments, steadfast visions, and ambitious hopes for the future. With or without outside assistance, Apple Computer will continue its culture of innovation and determination, constantly creating new standards for others to follow.

DYLAN RHEA
*Dallas, Texas*

THIS WHOLE APPLE-MICROSOFT deal brings to mind scenes from the Frank Capra movie *It's a Wonderful Life*. I'm not going as far as to say that the whole town will show up to save the day, or that Steve Jobs and Bill Gates can't *really* work together to make the world a better place. I just hope that this alliance does not reduce Apple to a puppet government and that the geniuses behind the Macintosh don't simply become another bunch of left-brained, memo-writing, number-crunching calculators.

JASON D. PALMER
*Darien, Georgia*

## Communicator Is Overrated

PAUL DEVINE IS ONLY HALF RIGHT when he praises Netscape Communicator 4.01's small RAM appetite compared with Navigator 3.01's (*Reviews*, October 1997). Communicator requires 3MB less RAM than its predecessor only when virtual memory is enabled. With your Mac at full speed and virtual memory off, it requires a scant 1MB less than Navigator 3.0—and that's without Conference and the other Communicator add-ons.

As for 4.01's stability, my system froze up the first time I used Communicator. Add a goofy, cartoonish new interface that looks like Microsoft Internet Explorer meets Hanna-Barbera; the inability to set background color in mail windows (this works only in the browser for some reason); and the absence of 3.01 button features such as Reply To All, and I'd say Communicator 4.01 isn't worth the bandwidth its hype is uploaded on.

MATTHEW RUBEN
*Philadelphia, Pennsylvania*

*You'll save memory without a performance hit if you turn on virtual memory and set it to provide only 1MB of memory more than your physical RAM. To set the background color of e-mail messages, choose Colors and Background Image from the Format menu, select Use Custom Colors, and click on Background.—Paul Devine*

## Keep 'Em Separated

I SEE APPLE AS THE MAKER OF A great operating system and well-built (but not cutting-edge) computers. Often surpassed by the clone makers, Apple now uses the leverage of its OS availability to protect its hardware sales. I think Apple should divide its hardware and software operations into two separate holdings. Current stockholders could be given a choice of how they wish to have their holdings redefined. The wisdom of this is that neither the hardware nor the software operation would be forced to support the other, encouraging each to maximize profitability. The only problem is that most Apple stockholders would probably opt for the Mac OS and software and dump the hardware. But what if the hardware division started looking at another OS? Now that's a performance incentive for each side!

RORY IVERS
*La Jolla, California*

## The Mac Lurches Forward

IRONICALLY, GIVEN ITS PUTATIVE technical prowess, the United States has a long history of standardizing on mediocre technology (QWERTY keyboards, VHS, 525-line television, and so on). Therefore, I am not surprised that the Macintosh has largely lost the desktop battle with Windows. The blame for much of this must be placed with Apple, which has been arrogantly assuming that superior technology will inevitably tri-

*continues*

JEFF NEUMANN

## CORRECTIONS

- *Deneba Software's Canvas 5.0.2 received a Star Rating of* ★★★/5.9 (Table of Contents, *November 1997*).
- *Scott Hazen Mueller's name was spelled incorrectly in "Stopping Junk E-Mail,"* News, *November 1997.*
- *RDG Tools' DitherBox 1.0 is able to "paint" with hybrid colors and received a Star Rating of* ★★★★/8.9 (Reviews, *November 1997*).

umph over the savvy marketing of the mediocre. In fact, the opposite has usually been the case.

The additional irony is that, as its market share drops, the Mac platform is evolving at an astonishing pace. I'm writing this with a two-month-old PowerBook 3400/200c, which is the finest computer of any kind that I have owned. I bought my wife a PowerCenter Pro last month, and it as well is fast, stable, and a joy to use. Forget the media circus, the Mac OS has never been as good as it is now. If you wish to get a lot of work done efficiently and with minimal headache—indeed, with elegance—consider this gem of a computing system.

LARRY CROCKETT
*Eagan, Minnesota*

## Just Be

I THINK *MACWORLD* SHOULD DRAmatically expand its coverage of the BeOS for Power Macintosh. I'm using Be to compose this letter, as well as to Web surf and Telnet to my campus e-mail system. The Internet functionality in Be is beautiful, seamless, and best of all, as fast as warp speed. It makes Mac OS 8 seem pokey and unresponsive in comparison. The BeOS is what the Mac OS and Windows both dream about being. I hope Apple won't regret not licensing Be when it had the chance. I think the BeOS is a very viable alternative to Apple's OS for those of us who are committed to the PowerPC chip. I hope that with the release of BeOS 1.0 there will be a version of Microsoft Office to go with it. That will be all I need to abandon the Mac OS and use Be for everything.

MARK KAIMAN
*Syracuse, New York*

## Apple Turns Back the Clock

IN THE MACINTOSH WORLD, WE'VE all been acting superior over the ability of *our* computers to properly handle dates after the turn of the millennium. In fact, Apple has simply pushed the problem 20 years into the future. Inputting a year in the near twenty-first century with just two digits (for example, 05) returns the correct four-digit year (2005). But try the same technique with a year after 2019, and you'll find your Mac suddenly warping itself back to the Age of the Flappers.

JOHN DICKISON
*Tokyo, Japan*

## To License or Not to License . . .

NO ONE IS MORE EXCITED OVER the presence of Steve Jobs than I, but for different reasons. Since the licensing of clones, the share of the Mac OS in the computer world has stayed the same, while Apple's share of the market has fallen proportionally to the clone makers' gains. Now Jobs is trying to slow this decline by making it tougher and more costly to license the Mac OS. If the clone makers threaten to go PC or to Be, let them. If they want the best, they should pay up. The Macintosh is the Mercedes-Benz of computers. Sure, 94 percent of the American public drives Chevys and Fords, but do they really compare to the German models?

BOB MARKETOS
*Petaluma, California*

## Smile, Uncle Bob!

*MACWORLD*'S REVIEWS OF SCANners, color printers, and digital cameras are seriously flawed by the type of image used for evaluation. Take the "Midrange Digital Cameras" review in the October 1997 issue. The glacier picture provides no information about the image quality of more-mundane stuff—like Mom, Dad, and the kids. Your readers want to know how these devices render skin tones. How about taking pictures of people when testing digital cameras? I think we'd all learn a lot more if these subjects were used.

JEFF ZIEGLER
*Salem, Missouri*

## Don't Hack the Hackers

I LOVED THE ARTICLE BY DAVID Pogue about "warez" and AOL (*The Desktop Critic*, October 1997). I'm 13, and I use AOL. I've been a small and insignificant member of the warez community. I've seen the meeting places and talked to people who are high up in the community. I'm not fanatic about it. I can't give you every commercial program ever made, nor can I tell you where to get them all.

I agree with many of the points made in Mr. Pogue's article, but I have one disagreement. You called the warez people "hackers." I don't think they are. The definition of *hacker* is a very disputed thing. Hackers were originally smart Unix programmers, people who could program, or "hack," their way out of a tight situation. Then the term morphed and began to mean "computer intruder." *Hacker* does *not* mean "software pirate." Unix hackers are generally stereotyped as computer nerds who wear half-inch glasses. Computer-intrusion hackers are stereotyped as computer nerds who wear half-inch glasses and are bent on trying to start World War III from a pay phone. Software pirates are stereotyped like mad. We're all made out to be half-intelligent people who tYpE LiKe tHiS.

In my exploration of the warez community, I've found many intelligent people. I'll put the emphasis on *intelligent*. I've met people who, as well as pirating, write useful utilities and hang out in the metaphysics chat rooms. And they all know how to use the shift key properly.

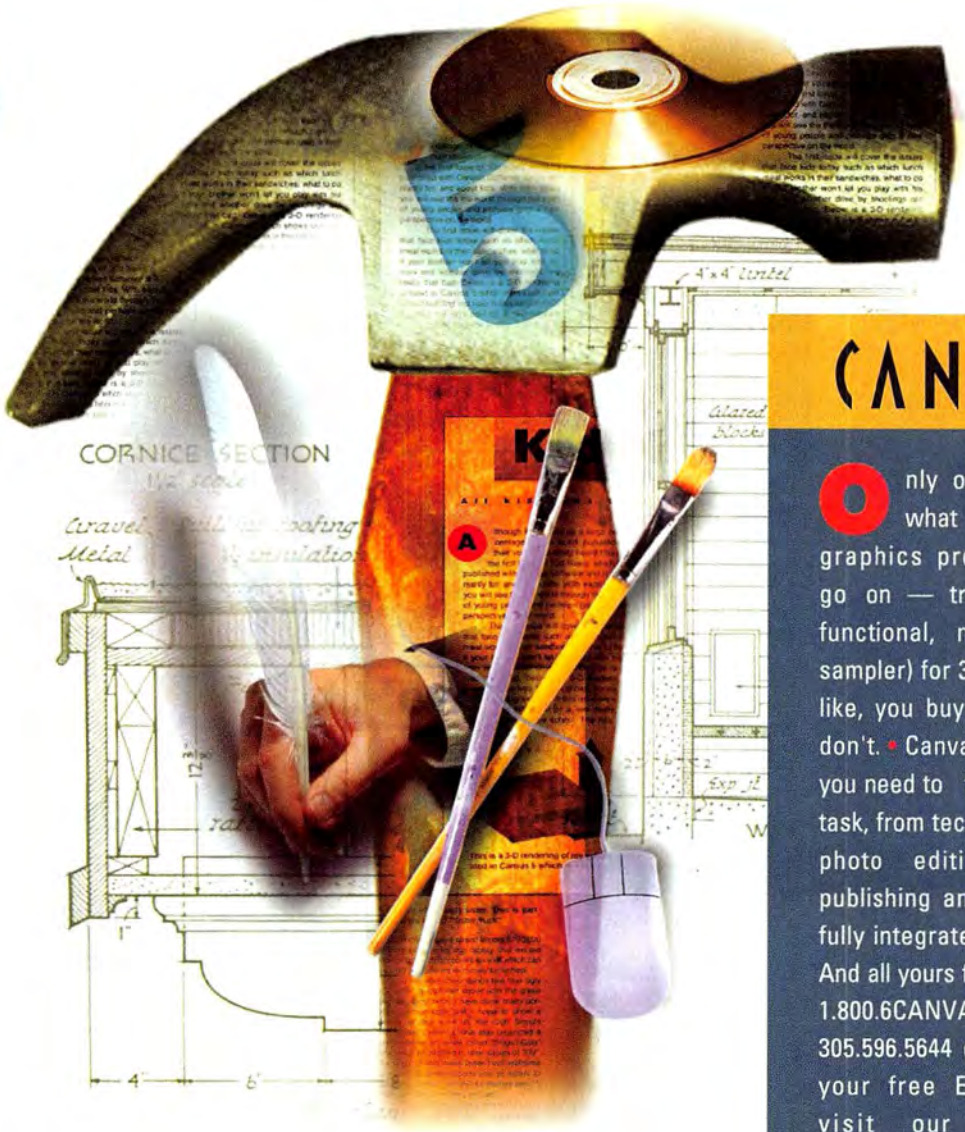
ROBIN GOODFELLOW
*Sova, Fiji*

*i DiDN'T MeaN To iMPLy THaT SoFTWaRe PiRaTeS aRe HaCKeRS, NoR THaT SoFTWaRe PiRaTeS aReN'T iNTeLLiGeNT. Hey, SoMe oF My BeST FRieNDS TyPe FuNNy.—DaViD PoGue* ■

Letters should be sent to *Letters*, Macworld, 501 Second St., San Francisco, CA 94107; via fax, 415/442-0766; or electronically via CompuServe (70370,702), MCI Mail (294-8078), America Online (keyword Macworld), AppleLink (Macworld1), or the Internet (letters@macworld.com). Include a return address and daytime phone number. Due to the high volume of mail received, we can't respond personally to each letter. We reserve the right to edit all letters. All published letters become the property of *Macworld*.

# The World's First Do-It-Yourself Ad.

**Rather than try and sell you on Canvas 5, we invite you to sell yourself with a 30 day free trial offer.**




## CANVAS 5

Only one person knows what you want in a graphics program: you. • So go on — try Canvas 5 (fully functional, not some weenie sampler) for 30 days, free. If you like, you buy. If you don't, you don't. • Canvas 5 has everything you need to tackle any graphics task, from technical drawing and photo editing, to desktop publishing and web design. All fully integrated. All easy to use. And all yours for the asking. • Call 1.800.6CANVAS (622-6827) or 305.596.5644 ext. 2, and ask for your free Evaluation CD or visit our web site at www.deneba.com/macworld/ to download it gratis. And if you've already sold yourself, visit your favorite reseller or call us and pick up a copy today.

**Circle 57 on reader service card**

© Copyright 1997 Deneba Software. Limited time offer valid only in North America.
This ad was made using nothing but Canvas 5. Any questions?

DENEBA

WINDOWS WWWW

PC Computing ★★★★

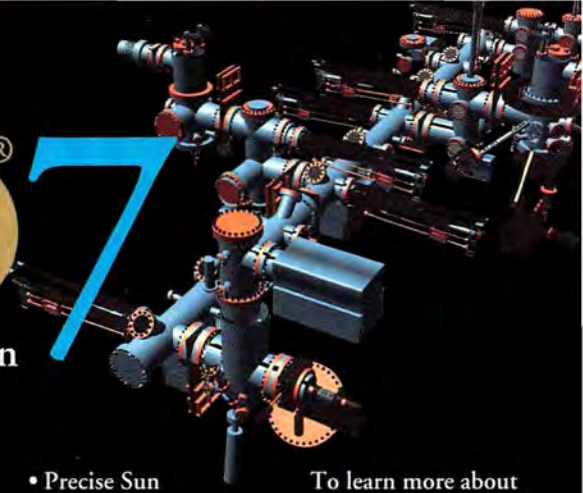
BYTE Best of Comdex Winner Best Application Software

MacUser Eddy Awards Readers' Choice 1996 Finalist

60 DAY MONEY BACK GUARANTEE RISK-FREE

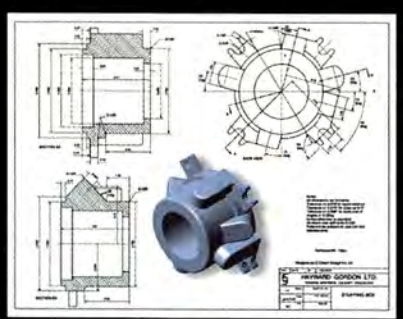
NEW VERSION!

# MiniCAD® 7



## Windows®/Macintosh®
## The Easiest, Most Cost-Effective Way to Design

For more than a decade, professionals seeking an out-of-box CAD solution have selected the award-winning MiniCAD. This stand-alone program lets you create everything from precise working drawings to sophisticated client presentations



to extensive materials lists and cost estimates.

As always, MiniCAD 7 offers the same core features that have made it the program of choice for design professionals in more than 80 countries—multi-decimal accuracy for precise drafting, a built-in database/spreadsheet to track costs and materials, extensive library of industry-specific symbols, cross-platform compatibility (Mac and Windows), and a macro programming language for automating complex and routine tasks.

Now this total CAD solution speeds your design process with these new features:

- True 3D Boolean Solid Modeling
- DWG and DXF Import/Export
- Dual-Unit Dimensioning
- Auto Wall Framing
- QuickDraw 3D Rendering
- Associative Hatching
- Automatic Wall Joining
- Next-Generation SmartCursor
- Precise Sun Positioning
- Expression Evaluation Inside Textboxes
- Automated Databases/Spreadsheets
- Multi-Decimal Dimensioning
- Rotatable Grid and Customizable Coordinate System
- Plus Dozens of Performance and Interface Enhancements

To learn more about MiniCAD's extensive feature set and why the program has been called "the easiest, most cost-effective way to design," call 1-888-MINICAD or visit our Web site: www.diehlgraphsoft.com

MiniCAD 7, which retails for a suggested price of $795, comes with 18 months of FREE Tech Support and a 30-Day Money-Back Guarantee!

## MiniCAD 7—The only thing small is the price.

**Circle 46 on reader service card**

MiniCad is a trademark of Diehl Graphsoft, Inc. All other brands and product names are trademarks of their respective holders.

# The Vision Thing

by Andrew Gore

## Games without Frontiers

HOW MESA IS PROVING THAT THE MAC REALLY IS A GREAT GAME MACHINE

IT'S A NATURAL TENDENCY to generalize. Generalizations let us make fast decisions when a careful evaluation of the facts isn't practical. Of course, generalizations are usually based on previous experience that may not apply in every circumstance. Take, for example, the prevailing generalization that the Mac is not a strong platform for games. In part, this is true—the installed base of the Mac is smaller than that of Windows 95, so more Windows game titles are sold than Mac titles. However, it doesn't necessarily follow that Mac users are not interested in games or are unwilling to pay for top-quality titles. As it turns out, a new industry organization is working hard to prove another generalization: The Mac is a great game machine.

### View from the MESA

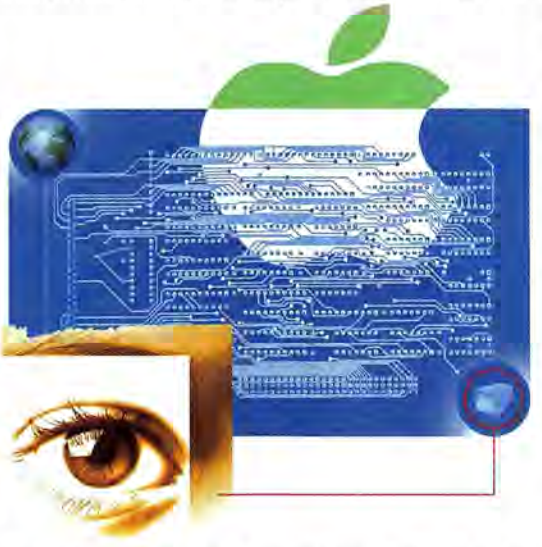
With Apple's release of the Power Macintosh G3, the PowerPC architecture is again proving its superiority over Intel's, not just in speed but also in affordability (see the cover story for all the details). These fast and inexpensive systems will be a boon for content creation. But that's not what has me excited. Making the games scream is what has me champing at the bit for a G3-powered Mac. The only problem is that there seemed to be few hot new titles capable of taking advantage of the processing power of these new machines.

Then I heard about MESA, the Macintosh Entertainment Software Alliance. MESA is a bunch of game developers who were getting tired of the "Macintosh is not a good platform for games" generalization and decided to do something about it. MESA members believed that factors such as poor stocking, uninformed salespeople, and restrictive mail-order practices—not a weakness in the Macintosh itself—were holding back a potentially lucrative market for Mac entertainment titles.

### The Game's Afoot

Key among MESA's initiatives is the effort to improve the economics of selling Mac games through mail-order catalogs. Prior to this effort, game developers could actually lose money selling via mail order. Why? Because they had to pay steep fees to place their products in mail-order catalogs. Because games are low-priced, and therefore low-profit, the cost of an ad in a catalog meant that only runaway best-sellers could make money. A game that sold only moderately well could lose money sold via mail order, which, of course, discouraged developers.

Then MESA got involved and convinced three of the four major Mac mail-order houses to stock games based on what customers want instead of what developers are willing to advertise, and games sales are now going through the roof. The only mail-order holdout is MacWarehouse, which, according to MESA president Peter Tamte, believes games are not important to its catalog.



JOHN RITTER

MESA's second initiative was to heighten the profile of Macintosh games in retail stores, which still sell 70 percent of all Mac games. In a copromotion with Apple Computer, key retailers have agreed to place the top ten Macintosh games on endcaps and other premium shelves. In addition to making Mac games more visible in these stores, this initiative also gives Macintosh game buyers a freebie: If they buy two of the top ten games, they get a third game (not from the top-ten list, of course) for free.

And those top ten games? Myth, Diablo, Starfleet Academy, F/A-18 Hornet 3, Quake, Duke Nukem 3D, Shadow Warrior (sequel to Duke), Jack Nicholas 4, Civilization 2 (best-selling strategy game ever), and Master of Orion. Just looking at this list is enough to make a Macintosh gamer like me salivate. I can see I'll have many sleepless nights as my new G3 Macintosh and I struggle to meet these sinister challenges!

This could be the best holiday season ever for Macintosh gaming, thanks to the efforts of MESA and a handful of dedicated game developers (for more evidence, see "Great Games," *Macworld*'s Game Hall of Fame, in this issue). But if we don't support these products, the Mac may lose developers as well as users. Around 65 percent of Mac users play games, and while it may not be the number one consideration when buying into the platform, it is a major one. So, if the Mac community doesn't continue to emphasize the Mac's strengths as a game machine, it could lose more users to Wintel, just because they want to play a few good games.

Just in case you doubt the potential strength of the Mac as a game machine: Duke Nukem, Quake, and Civilization 2 all paid for their entire development on the first day of sales. **m**

*Stop playing games; tell me what you really think by sending your comments to visionthing@macworld.com.*

"It's one of the most important applications created for the Mac in the last five years."

- Guy Kawasaki, Apple Fellow & Chief Evangelist
Computer Retail Week 6/17/97

"What's most compelling (about Virtual PC) is its price, ease of use and high degree of compatibility. With Virtual PC, you can walk the Windows-only aisles of your favorite software retailer ready to buy rather than be green with envy."

- MacWeek 6/20/97

"Running PC software on a Mac isn't new. But Virtual PC...is the cheapest, easiest, and most complete answer I've seen."

- BusinessWeek 8/7/97

"Virtual PC is the easiest and most complete way to run Windows software on a Mac without spending a fortune."

- Wall Street Journal 7/17/97

**Connectix**

Makers of RAM Doubler and Speed Doubler.

© 1997 Connectix Corporation
2655 Campus Dr., San Mateo CA 94403 USA
650-571-5100 • Fax 650-571-5195 • www.connectix.com
Connectix Virtual PC is a trademark of Connectix Corp. All other trademarks are the property of their respective holders.

# NOW, JUMP INTO THE OTHER 95% OF THE COMPUTER STORE.

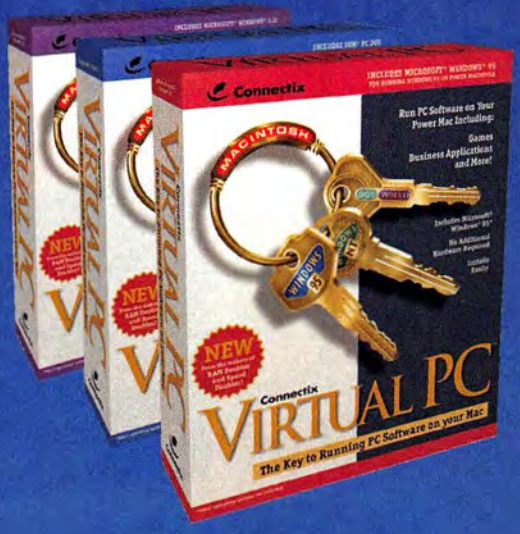
## CONNECTIX VIRTUAL PC PRODUCTS GIVE YOU A WHOLE NEW FREEDOM

You love your Mac, but some software is written only for the PC. Here's the solution.

Connectix Virtual PC™ gives you the freedom to run PC software including games, edutainment titles and productivity applications with playable performance on your Power Mac or clone. Connectix Virtual PC product line offers the first, truly affordable, easy-to-use solution for running the universe of PC applications on your Mac.

Easily installed, Connectix Virtual PC is like having a Pentium® MMX™ PC in software. Use your favorite Mac peripherals because Connectix Virtual PC has built-in support for CD-ROM, printing, networking (ethernet), modem, sound and video. Connectix Virtual PC product line is available in three different versions - Windows 95™, Windows 3.11™ or IBM® PC DOS. You can even run other operating systems such as Windows NT™, IBM® OS/2™ and NeXT® OpenStep™ (not included). Switch instantly between Mac and PC applications.

Get Connectix Virtual PC. Then, run the universe of PC software on your Mac.




**THE KEY TO RUNNING PC SOFTWARE ON YOUR MAC**

MacWEEK
6/20/97

**Circle 192 on reader service card**

(909) 869-7976 Fax: (909) 869-7958 • Internet: www.viewsonic.com • Specifications subject to change without notice • Copyright © 1997, ViewSonic Corporation • All rights reserved
Corporate names and trademarks are the property of their respective companies.

# For people with 19-inch eyeballs and a 17-inch work space.

## Introducing our latest big idea.

The G790 is the latest innovation from ViewSonic®, a company known for taking the lead. It's one of those rare "best-of-all-possible-worlds" solutions for those who need a larger display area but don't want to compromise either screen performance or desktop space. It's the first 19" display (18.0" viewable) made by ViewSonic, and while its screen size is big, its footprint is small, taking up about the same space as a typical 17" (various viewables) monitor.

## No small-fry when it comes to performance.

For graphics users, web pros, business types and home surfers alike, the G790 is a big performer. It has a super fine 0.26mm true dot pitch and flicker-free optimal resolution of 1,280 x 1,024 at an 88Hz refresh. In other words, it's razor sharp. And with a vertical scan rate of 180Hz, it even displays flawless 3D applications. Check out the G790 for yourself. It's a real eye-opener.

**ViewSonic G790**

- 19" Display (18.0" Viewable)
- .26mm true dot pitch
- 1,280 x 1,024 optimal resolution at 88Hz
- TCO Compliance
- SuperContrast™ screen

***For the dealer nearest you, call ViewSonic at (800) 888-8583 and ask for agent 81034, or visit our website at: www.viewsonic.com.***

**ViewSonic®**

*See The Difference!®*

**Circle 59 on reader service card**

# News

systems

## Apple Ships Rhapsody to Developers

BUT MAC OS REMAINS PRIMARY FOCUS

by Stephen Beale

JEFF NEUMANN

Apple's Rhapsody operating system was back in the limelight in October, when the company shipped the first release of the next-generation OS and a host of vendors announced Rhapsody software. Still, Apple has made it clear that the Mac OS will remain its primary focus for the foreseeable future.

"The Mac OS is and continues to be the mainstream operating system," says Rhapsody product-line manager Ricardo Gonzalez.

Apple announced Rhapsody in January 1997, shortly after its acquisition of Next (see "What's Next for the Mac OS?" *News*, March 1997). The OS would have two components: a Blue Box, for running Mac OS applications, and a Yellow Box, based on Next's OpenStep software, that would offer such modern OS features as protected memory and preemptive multitasking. Although Apple also announced a roll-out plan for future versions of the Mac OS, it appeared that Rhapsody was getting most of the company's attention.

**Strategic Shift** Months later, Gil Amelio resigned as CEO, Steve Jobs took the reins as de facto chief executive, and Apple shipped Mac OS 8—which sold 2 million copies by mid-October.

Speaking at the August Macworld Expo in Boston, Jobs signaled that he had shifted emphasis from Rhapsody to the Mac OS. During his keynote, he said that Apple would beef up its investment in the Mac OS. He also told *Newsweek* magazine that "a lot of Rhapsody will be in the Mac OS, rather than the other way around."

Jobs now says Rhapsody will be Apple's equivalent of Microsoft's Windows NT, first supporting servers and other high-end software that can take full advantage of modern OS features. *MacWeek* has reported that Apple's forthcoming Mac OS–based network computer will be tied to Rhapsody servers.

**Rhapsodized Developer** The initial release of Rhap-

sody is not intended for prime time. Instead, it is aimed at vendors who may want to develop Rhapsody-based software or hardware. It does not include the Blue Box for Mac OS compatibility and lacks support for Point-to-Point Protocol, which allows dial-up connection to the Internet.

Still, a host of vendors have announced Rhapsody-based software. Many of the developers already have experience with OpenStep.

Among the new packages are Create, a $249 design and layout tool from Stone Design (505/345-4800, www.stone.com); PasteUp, a $695 page-layout program from Anderson Financial Systems (215/653-0911, www.netaxs.com/~afs); and Glyphix, a drawing and charting program from M. Onyschuk and Associates (416/598-1321, www.oaai.com).

OpenBase International (603/547-8404, www.openbase.com) announced a Rhapsody version of its OpenBase SQL database manager, and Snap Innovation, a German developer, says that it has ported its Prime Base database software to Rhapsody. Dantz Development (510/253-3000, www.dantz.com) announced Rhapsody client software for use with Retrospect, its Macintosh-based backup utility.

**Premier on the Way** Next on Apple's Rhapsody agenda is Premier, which is scheduled for release in early 1998. Premier will include the first implementation of the Mac OS–compatible Blue Box, as well as the QuickTime Media Layer.

Apple also says it will include a version of its AppleScript scripting software in all future releases of the Yellow Box, including Yellow Box versions slated for PCs.

Additional reporting by *MacWeek* staff.

BRYAN WIGGINS

industry

# Apple Announces $161 Million Loss

JOBS REMAINS COY ON CEO PLANS

by Stephen Beale

Steve Jobs's famed reality-distortion field was on full display at the recent Macromedia User Conference, where he received a standing ovation from multimedia developers after hinting that he might be willing to drop the "interim" from his job title and become Apple's long-term CEO. Unfortunately for Apple, even Jobs could not hold back a cold splash of financial reality as the company announced that it had lost $161 million in the fourth fiscal quarter, which ended September 26.

Most of the loss was due to a pair of onetime charges: $75 million for the acquisition of Power Computing's Mac business and $62 million for future restructuring charges. That left an operating loss of $24 million; analysts polled by First Call had predicted a $17.8 million loss.

**Disturbing Trends** Behind the numbers were some disturbing trends. Sales continued to decline, as Apple sold 625,000 Macintoshes, compared with 932,000 in the same quarter a year ago. Apple Chief Financial Officer Fred Anderson blamed this situation in part on a shortage of the fastest PowerPC chips, leading to a $200 million backlog of orders for Apple's most profitable high-end Macintoshes.

Education revenues went flat at a time when PC makers were increasing their K–12 sales, reducing Apple's share in one of its most important markets. Sales in Japan, another key Apple market, plummeted 50 percent from the same quarter a year ago.

Overall revenue was $1.6 billion, down 30 percent from $2.32 billion in the fourth quarter of 1996. For the year, Apple lost about $1 billion on sales of $7.1 billion, compared with 1996 losses of $816 million on sales of $9.8 billion.

Apple suffered the losses despite strong sales of Mac OS 8. Also on the plus side, Anderson said that quarterly operating expenses were $353 million, down $55 million from the previous quarter. Apple continues to have strong reserves, with about

*continues on page 30*

# Apple's New Channel Program

BY LEANDER KAHNEY, MACWEEK

HOPING TO SPUR GROWTH WHILE CUTTING OPERATING EXPENSES, Apple recently announced that it is shaking up its relationship with resellers and its methods of supplying them.

Apple acknowledges that sales have suffered from a lack of Mac advocacy among resellers, especially computer superstores, and from problems in getting products to market. Mitch Mandich, senior vice president of Apple Americas, says that Apple will boost Mac advocacy by increasing the number of dealers buying directly from the company.

**Going Small** To do so, in December Apple will reduce its requirement for direct purchases from $20 million in direct purchases annually to $2 million. The lower requirement will attract smaller dealers, who Mandich says are generally more committed to the Macintosh than superstores.

He also says that Apple will remove restrictions on the type of products dealers can sell. Previously, the retail channel was generally restricted to selling consumer machines, while value-added resellers were restricted to high-end products. Mandich says resellers will have access to the full range of Apple's goods, with the exception of education-specific products.

The company also hopes to see significant savings in inventory management by changing its return and price-protection policies, Mandich says. Apple reduced the amount of unsold goods resellers can return, from 10 percent to 5 percent, and said it will guarantee product prices for 30 days. Previously, Apple protected only products in inventory or transit.

The move is designed to encourage the channel to turn products over faster by placing greater responsibility for managing inventory in dealers' hands, says Michael France, a member of Apple's new Apple Dealer Association board and a senior partner at MacCenter, a reseller based in Fort Lauderdale, Florida.

Special REPORT

# Coming Soon to a Service Bureau Near You

DIGITAL PRESSES AND LARGE-FORMAT SYSTEMS TRANSFORM IMAGING SERVICES

A few years ago, your service bureau probably earned most of its revenue by offering imagesetter film output and other prepress services. Today, many of these firms are transforming themselves into digital-printing centers with high-speed copiers, digital presses, and large-format output systems. In this special report, *Macworld* looks at emerging technologies that are well on their way to taking the *pre* out of prepress.

## Digital Presses Get Personal

by Stephen Beale

Digital presses are nothing new. The first models, Indigo's E-Print 1000 and Xeikon's DCP-1, were introduced in 1993 and soon began proliferating in service bureaus seeking new lines of business. However, graphics professionals have been slow to take advantage of the presses' unique functions, such as the ability to produce personalized documents with variable text and graphics. A major problem has been the lack of easy-to-use personalization software, but things are changing with recent announcements of variable-data programs that work with QuarkXPress and other graphics software.

Digital presses use a variety of methods to produce high-quality color output at speeds approaching those of conventional offset equipment. Most digital presses are based on the same technology found in color copiers; some high-speed copiers, such as Canon's 30-pages-per-minute CLC 1000, could be considered digital presses. Because they produce output directly from digital data, the presses can vary the text and graphics on each page in a print job—if you have the appropriate software.

**Mail Merge Plus** Personalization software could be thought of as mail merge on steroids. A mail-merge program lets you insert variable data—such as a name and address—into direct-marketing pieces and other documents. A personalization program lets you place variable photos and illustrations as well as text to produce customized graphics-laden documents for specific recipients.

The benefits should be easy to see. In an early demonstration of personalization at the 1995 Seybold San Francisco conference, Apple representatives used QuarkXPress, AppleScript, and an Indigo E-Print 1000 to produce customized flyers for a fictional Macintosh promotion aimed at college women and male corporate executives. The former featured a photo of a young woman in an outdoor setting, while the latter showed a middle-aged man sitting at a desk. Each flyer also included the names of Macintosh dealers in the recipient's area.

Currently available personalization programs vary widely in price and capability, but the basic approach they use is the same. First you create a page layout, generally using QuarkXPress. You place the constant text and graphic elements—those that remain the same on each page—and then add empty text and picture boxes for variable data, linking these to fields in a database. Some programs offer sophisticated conditional-graphics functions, such as changing the width of a rule based on information in a database field.

Once you've completed the layout, you send the QuarkXPress file and the database to your service bureau, which then prints the finished, customized documents.

**Focus Gold** Vision's Edge (904/386-4573, www.xtender.com), a QuarkXTensions developer, announced its Focus Gold personalization program at the 1997 Seybold San Francisco. Originally created for *Reader's Digest*, the $2,000 QuarkXTension works with Claris FileMaker Pro to produce personalized documents. A visual interface lets you set up formulas and conditions for varying text, graphics, and rule widths. The program supports any PostScript-compatible output device, but the company says it is also working with digital-press vendors to create custom performance-enhanced versions for their equipment.

In March, Vision's Edge plans to release a simplified version called Focus Silver; the price will likely be between $500 and $600.

**PrintShop Mail** Splash Technology (408/328-6300, www.splash.com), a vendor of Mac-based print servers for Xerox color copiers, is offering PrintShop Mail, a personalization program that it sells with its Splash systems. Oldsmobile is using the software, along with Apple's WebObjects, to provide potential buyers of its Intrigue model with information customized to their purchase preferences. Customers at Oldsmobile dealers enter color preferences and other information into a database, eventually producing a custom Web page and a specifications booklet.

ILLUSTRATIONS BY BRYAN WIGGINS

PrintShop Mail, developed by Atlas Software (www.atlassoftware.nl), of the Netherlands, works with PostScript files created in a word processor or page-layout program. Atlas offers a stand-alone version for Xerox and Canon copiers; you pay $1,395 for up to 200,000 prints or $3,995 for unlimited prints. A demo version is available on the company's Web site.

**Fiery FreeForm** Electronics for Imaging (650/286-8600, www.efi.com) has announced a personalization program called Fiery FreeForm Variable Data Printing that works in conjunction with its Fiery controller for digital color copiers. The software can customize multiple-page documents and lets you add transparent or opaque variable elements.

These are just a few of the personalization programs now available, and more are likely to follow. All require extensive interaction with your service bureau. In some cases, you may not have to purchase the software; instead, you can set up the database and QuarkXPress layout and let your service bureau handle the rest. Always be sure to discuss your project requirements with your service bureau before investing in any personalization software.

**Design Impact** Personalization programs raise interesting issues for designers. When you design marketing materials with static text and graphics, it's easy to see how the elements work together. With personalization, designers will have to create pages that look good with varying combinations of photos and illustrations. But given the obvious advantages of variable-data printing, many designers will no doubt welcome the challenge.

# Ink-Jets Make Large Strides

by Andrea Dudrow

Large-format electrostatic printers have long been the workhorses of service bureaus offering poster-size output. Given their fast printing speeds and durable output, service bureaus were willing to overlook their drawbacks, such as the $50,000 to $100,000 price tags. The first large-format ink-jet printers, while much less costly than electrostatic ones, were slow and limited to producing indoor graphics. Today, a new generation of ink-jet printers is quickly advancing on electrostatic territory with faster print speeds, higher resolution, and inks that resist fading in sunlight.

**Piezo Prints** CalComp (714/821-2000, www.calcomp.com), Raster Graphics (408/232-4000, www.rgi.com), and Xerox ColorgrafX (408/229-3929, www.xerox.com) have each introduced large-format printers based on piezoelectric technology, which uses pressure instead of heat to place ink on the paper. In addition to being faster than older ink-jet printers, these offer resolutions up to 720 dpi; most other large-format ink-jet printers are limited to 300-dpi output. All are priced between $20,000 and $30,000.

One of the first large-format piezoelectric ink-jet printers was the $19,995 PiezoPrint 1000 from Raster Graphics, which the company announced about a year ago. The printer, actually manufactured by Mimaki, handles paper up to 52 inches wide and uses pigment-based inks that resist fading in sunlight.

The printer is bundled with PosterShop PS, a Macintosh-based raster-image processor (RIP) from Onyx Graphics. The RIP acts as an intermediary between the computer and the printer.

**Xerox and CalComp** More recently, Xerox ColorgrafX introduced the VivagrafX Xpress, a $29,995 device that

prints on media up to 36 inches wide. The printer can hold up to three rolls of paper. Output speed ranges from 40 to 160 square feet per hour depending on resolution. The price does not include a RIP; Xerox offers a $6,000 NT-based RIP for the printer, but RIPs are available from other vendors as well.

CalComp's new CrystalJet is available in two versions, a $21,995 model with a maximum paper width of 42 inches and a $29,995 model that handles paper up to 54 inches wide. The printer includes a built-in PostScript interpreter, but CalComp expects most service bureaus will add their own RIPs for faster throughput. One unique feature is an LCD screen that shows video clips on common printer maintenance tasks. Output speed ranges from 72 to 240 square feet per hour depending on resolution.

**Extra Ink** The latest DisplayMaker printers from ColorSpan (formerly LaserMaster; 612/944-9330, www.colorspan.com) print at 300-dpi resolution but have eight inks instead of four; you can add light and medium cyan and magenta inks to achieve photographic resolutions equivalent to 1,200 dpi, ColorSpan says. The extra ink wells can also be used for switching between traditional dye-based inks and new pigment-based inks for outdoor graphics. The units are available in 42-, 52-, and 60-inch widths for $17,995, $21,995, and $27,995, respectively.

**For the Rest of Us** For designers who would like to bring large-format printing in-house, Hewlett-Packard (800/752-0900, www.hp.com) has introduced the DesignJet 455CA, a $4,195, 36-inch printer that offers a maximum color resolution of 300 dpi. The price includes a Macintosh-based software RIP and a JetDirect RX external print server for speedy throughput.

**Customer Benefits** Thanks to these new ink-jet printers, service-bureau customers can expect more choices and faster, better-quality poster-size output.

With their increased resolution and, in some cases, extra colors, these printers could begin competing with high-end Iris Graphics ink-jet printers for fine-arts output. Grey Held, a senior analyst with Lyra Research, says that Hewlett-Packard and Raster Graphics have made big strides in image quality, especially for photographic output. Iris printers are "still the cream of the crop in terms of quality," Held says. But he believes that large-format ink-jet printers will eventually match the quality of Iris printers.

Sneak PEEK

## Dreamweaver Brings HTML to Life

BY JASON SNELL

In the fast-moving world of the Web, today's top HTML editor can be tomorrow's roadkill. The latest contender for the crown is Macromedia's Dreamweaver, a WYSIWYG editor due in December that creates animated, CD-ROM–style Web pages using a new version of HTML called Dynamic HTML.

Like CyberStudio and NetObjects Fusion, Dreamweaver ($299 through February 1998, $499 after) lets you design Web pages by dragging items on a page. But while those programs use complex HTML tables, Dreamweaver uses a new HTML feature, absolute positioning, to place objects with pixel-level accuracy. It also supports cascading style sheets, which lets you apply styles to a Web page or an entire site via a floating Style palette.

There's even CD-ROM–style interactivity: Via the Timeline Inspector, you can make text and graphics slide across a page or appear and disappear when you click on a link.

**Hands off the Code** Web authors will appreciate Dreamweaver's hands-off approach to HTML code—we found that unlike with most WYSIWYG editors, opening several complicated pages revealed only a few rewritten tags. The tags Dreamweaver changed contained errors, which Dreamweaver corrected. Another plus is Dreamweaver's tight integration with Bare Bones Software's excellent BBEdit text editor, which is bundled with it. A library stores commonly used fragments of HTML code such as headers and footers. When you change an element in the library, Dreamweaver can automatically make that change on every other page in your site.

You can animate objects in Dreamweaver by selecting an item and moving it within the Timeline window.

There are drawbacks to being a Web pioneer, though: Dynamic HTML pages require Internet Explorer and Navigator versions 4.0; older browsers see only a mishmash of text and graphics. In contrast, CyberStudio and Fusion's layout methods are compatible with most Web browsers in use today. Plus, Dreamweaver's interface for creating and editing older, more-common HTML tags such as tables doesn't seem as strong as either CyberStudio's or PageMill's. And much of Dreamweaver's impact has to do with being the first WYSIWYG editor to support Dynamic HTML. But will it be king of the hill in a few months? As is always the case in Web time, that's anyone's guess.

multimedia

# Macromedia Unplugged

ANNOUNCES UNIVERSAL MEDIA INITIATIVE AT USER CONFERENCE

by Stephen Beale

Looking to end the proliferation of browser plug-ins, Macromedia (415/252-2000, www.macromedia.com), used its annual conference in October to announce a Universal Media Initiative that will let you view ShockWave and Flash animations—and other forms of dynamic media—without special playback software. Designers can now make animated Web sites accessible to users who don't have the necessary plug-ins.

The company's goal is to adapt its multimedia authoring tools to such Web standards as Java and Dynamic HTML. The latter, supported in the latest versions of Netscape Navigator and Microsoft Internet Explorer, lets you create Web-based animations by using HTML codes.

One early fruit of this initiative is Macromedia's new Dreamweaver Web authoring software (see "Dreamweaver Brings HTML to Life," at left), which supports Dynamic HTML. But Macromedia has also extended its efforts to its other multimedia tools.

**Java Playback** A forthcoming Java Export Xtra for Macromedia Director 6.0 and 6.0.1 will enable you to convert Director files into Java applets that can be viewed in any Java-compatible browser. Macromedia plans to ship the Xtra in early 1998. Pricing has not yet been determined, but Macromedia will offer the Xtra at no charge to users who purchase or upgrade to Director 6 before the end of 1997.

Macromedia's new Flash Player Java edition lets you generate Java applets that contain Flash vector animations. The software is available now as a public beta from Macromedia's Web site; the final version will ship for free by year's end.

**Aftershock** Macromedia also announced Aftershock, a technology that allows Web

designers to set up playback hierarchies based on the capabilities of particular browsers. If you create a Flash animation, you can set it up to play first through the Shockwave Flash plug-in. If the user hasn't downloaded the plug-in, the animation will play as a Java applet. If the user doesn't have a Java-capable browser, the animation will play as an animated or still GIF.

The Flash Aftershock utility is now available on Macromedia's Web site. Macromedia plans to release a Director Aftershock utility by the end of the year.

The company isn't giving up on plug-ins, which still offer the fastest playback of Shockwave and Flash media. In addition, the Java applets are missing some features supported in the plug-ins, such as the ability to play stereo audio.

Macromedia also an-

BRYAN WIGGINS

nounced the FreeHand Animation PowerPack, a $39 collection of Xtras that allow direct export of Flash animations from FreeHand. One Xtra transforms FreeHand blends into Flash-animated vector morphs.

**Sneak Previews** One conference session offered a look at features likely—but not guaranteed—to appear in future Macromedia products, including FreeHand 8.

FreeHand users can look forward to an Image Hose, similar to the one in Fractal Painter; a customization option that lets you define your own keyboard shortcuts and tool bars; a tool that lets you reshape paths without dragging Bézier control points; and a feature that lets you rotate objects as you mirror them.

Company representatives also previewed transparency capabilities for Flash animations, quiz-building tools for Authorware Professional, and the PowerPoint Import Xtra for Macromedia Director.

graphics

# New Order from Xaos

GRAPHICS SOFTWARE DEVELOPER TO ENTER CONSUMER MARKET

by Rebecca Gulick, MacWeek

Xaos Tools (415/477-9300, www.xaostools.com) has unveiled a new graphics engine that unifies disparate graphics types. The engine is propelling Xaos in a new direction as well; the company will enter the consumer photo-editing market with a new product later this year.

"We're basically back as a company with new technology," says Xaos president Bob Batty.

Xaos's new "imaging substrate" will serve as the power behind the company's product line. Under construction for more than three years, the engine and a new scripting language will unify raster and vector technology, 2-D and 3-D graphics, and still and moving images, Batty says.

**Flashy Images** Flash Box will be Xaos's first product based on the new technology. The $99 image-editing tool will make its Mac debut in January.

The stand-alone application will feature a drag-and-drop interface. Each tool will have its own semitransparent palette of brushes, and all components will reside in animated slide-out shelves.

Flash Box will feature seven thematic Flash Xubes, modules that contain tools and other components. A set of retouching tools will remove red-eye and scratches, adjust blur and sharpen levels, and correct brightness and color saturation. Another set will create morphing effects.

Users will be able to download 12 additional sets of tools and content—one per month for a year—at no extra cost. However, Flash Box will not support Adobe Photoshop plug-ins.

**For the Pros** While Flash Box is aimed at consumers, Xaos says it will continue to focus on professional graphics plug-ins. Four special-effects products are slated for release in 1998, including Phenomenon, a tool for creating climatic effects for still and moving images. It will support a variety of 2-D, 3-D, and video packages, Xaos says. The company also plans to upgrade its existing $199 plug-ins—Paint Alchemy, Terrazzo and TypeCaster—to the new engine.

systems

# Omega Touts Own Mac OS

MYSTERY SURROUNDS GERMAN DEVELOPER OF MAC-COMPATIBLE OS

by Matthew Rothenberg, MacWeek

The air of mystery surrounding upstart German developer Omega (www.omega.de) continues to deepen as international Macintosh enthusiasts ponder the company's claim that it has created a Macintosh-compatible OS from scratch.

Omega, based in Stollberg, Germany, has posted information on its Web site about COS, a new operating system that the company says will run in 4MB of RAM on 680X0- and PowerPC-based Macs equipped with a floating-point unit.

Omega says the $99 software will include its own microkernel and offer four times the performance of Mac OS 8. It will run all Mac OS 7.6– and Mac OS 8–compliant software and include a complete 680x0 emulator, Omega says.

"The first version will

*continues*

ARNOLD TIOSEJO

## New Projector Is Bright and Light

IN FOCUS LP420 PUMPS 400 LUMENS

In Focus (503/685-8888, www.infocus.com) is advancing the multimedia-projector revolution with the introduction of the LP420, which offers a bright picture in a case that's light enough to take on the road. The projector pumps 400 lumens from a seven-pound case and has a maximum resolution of 800 by 600 pixels. It is In Focus's first projector to use Texas Instruments' digital light processing (DLP) technology (see "Mirror, Mirror on the Wall," *News*, March 1996). Other DLP projectors have similar designs, often requiring a larger case because Texas Instruments supplies all the components. With the LP420, Texas Instruments supplies the DLP chip and driveboard but In Focus does the rest. In Focus has also added a white panel to the projector's color wheel, which the company says will increase overall brightness. The LP420 lists for $5,999 and connects directly to your Mac.—ANDREA DUDROW

Sneak PEEK

## Bryce 3D Moves Mountains

BY CATHY ABES

Curiously renamed Bryce 3D, the long-anticipated upgrade of the 3-D landscape generator from MetaCreations (805/566-6200, www.metacreations.com), finally provides what its two predecessors lacked: movement. Anything in Bryce 3D can be animated and keyframed; beyond objects and their paths, you can also keyframe textures and effects. Objects can be linked so they move together, and you can have a camera or light link to an object or track it, just by clicking on the Link or Track button and dragging between the two elements.

**Simulating Nature** It's easy to create animated terrains that evolve over time and mimic nature; Bryce 3D allows you to build up mountains and oceans and just as easily erode them into flat plains or deep valleys; for example, I was able to transform a mountain into a volcano by using a brush to erode its center.

You can also simulate such natural phenomena as sun, moon, clouds, stars, and comets. For example, you can add surface detail and rings to the moon, make the moon and stars become visible as the sky darkens, and enlarge the sun or moon as it approaches the horizon.

After you've made your animation, you can enter Bryce 3D's Advanced Motion Lab to alter your object's velocity; view your entire timeline; or cut and paste, remove, or reposition keyframes. You can also preview your animation.

**Fly-through Textures** Bryce 3D's second-most-important addition has to be its revamped textures. Whereas Bryce 2 made you settle for surface textures that merely wrapped around objects, Bryce 3D's Hyper-textures are volumetric textures with three-dimensional properties—so, for example, your camera can actually fly through clouds. What's more, any texture imported from Bryce 2 can be easily transformed into a Hyper-texture. And instead of Bryce 2's flat planes, the new version features 3-D "infinite slabs" that have depth. You can also transform one material into another, which Bryce accomplishes by progressively adjusting such properties as color, texture, and opacity.

In Bryce 3D's Advanced Motion Lab, you can change an object's velocity and direction by creating and dragging points on the object's motion path.

The ability to quickly and easily animate Bryce scenes and the addition of volumetric textures make this upgrade worth the wait. Due by the end of November, Bryce 3D retails for $299; upgrades are $99.

have a very simple desktop: nothing with gimmicks or funny things that cut down the performance," says Omega president Manfred Schmitz.

Schmitz claims that COS includes no code from Apple.

German sources say they are puzzled at the news coming out of Omega. The company, based in eastern Germany, reportedly is a newcomer to the closely knit Mac-developer community centered in western Germany.

printers

## Laser Printers Speed Along

HP AND XEROX UNVEIL HIGH-SPEED PRINTERS FOR WORKGROUPS

by Macworld Staff

Color may be the rage, but most offices still have use for black-and-white laser output, especially from high-speed network printers. Hewlett-Packard (619/487-4100, www.hp.com), which dominates the workgroup-printer market, has introduced its latest LaserJet series, while Xerox (716/265-5697, xerox.networkprinters.com) is challenging HP with two new printers, one of which blazes along at 32 pages per minute.

**Latest LaserJet** HP's new LaserJet 4000, which replaces the LaserJet 5, prints at 17 ppm and uses the company's FastRes 1,200 resolution-enhancement technology to increase effective resolution from 600 to 1,200 dpi. It supports Adobe PostScript Level 2 through emulation software that HP acquired from Xionics. An instant-on fuser mechanism reduces startup time to 15 seconds, HP says.

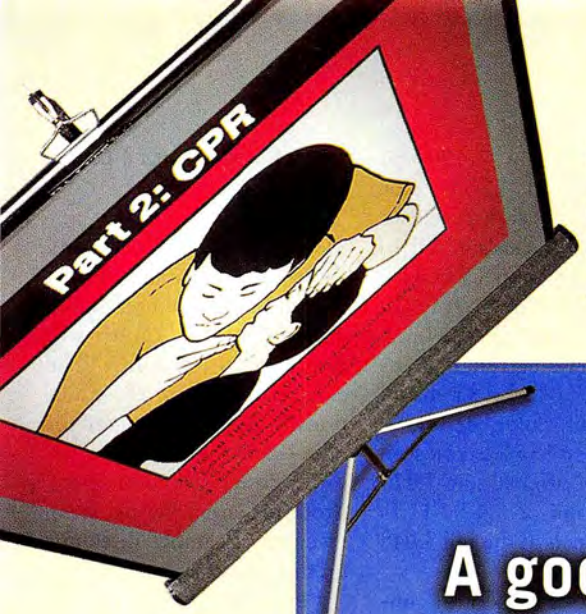
The printer uses HP UltraPrecise toner cartridges, which yield 10,000 pages each. The cartridges feature smaller toner particles—5 to 6 microns—than previous HP cartridges.

HP offers the printer in four configurations: the base LaserJet 4000, which sells for $1,099; the $1,249 LaserJet 4000 T, which includes an extra paper tray; the $1,399 LaserJet 4000 N, which includes your choice of an Ethernet or LocalTalk connection; and the $1,599 LaserJet 4000 TN, which includes the extra tray and networking.

**Speed from Xerox** Xerox's new DocuPrint N32 and N24 feature 600-dpi resolution, built-in Ethernet interfaces, and an Adobe-licensed PostScript interpreter. The $2,400 N24 prints at 24 ppm; the $2,900 N32 speeds along at 32 ppm. Xerox offers several options for the printers, including a $550 du-plex module that lets you print on two sides, and a $1,970 finishing unit that can staple documents in three different positions.

GIBSON

HP has introduced the LaserJet 4000.




1 IN AN EMERGENCY, *split-second decisions mean the difference between life and death. Not surprisingly, then, the Red Cross puts a tremendous amount of importance on training and preparedness.*

# A good projector can save a meeting. A great one just might save a life.

| MultiSync MT LCD Projectors | | |
|---|---|---|
| | MT810 | MT1000 |
| Resolutions Supported | 640 x 480, 800 x 600, 1024 x 768 with AccuBlend™ technology | 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024 with AccuBlend™ technology |
| Video Compatibility | NTSC, PAL, SECAM, NTSC 4.43 | NTSC, PAL, SECAM, NTSC 4.43 |
| Brightness | 550 ANSI Lumens | 450 ANSI Lumens |
| Weight | 15.5 lbs | 15.9 lbs |
| Dimensions (W, H, D) | 15.6 x 5.7 x 12.6" | 15.6 x 5.7 x 12.6" |

Both models are compatible with PC, Mac, and workstation computers, feature built-in audio and 2 years of InstaCare 24 hour replacement service.

NEC MultiSync MT810 and MT1000 LCD Projectors

Hurricanes. War. Floods. While some would run the other way, the Red Cross rushes in. What makes this extraordinary responsiveness possible? Their generous spirit, and an astonishing amount of training.

At NEC Technologies, we salute the Red Cross' incredible commitment to training. For it is our own commitment to training and presentations that led us to develop our new MultiSync® MT810™ and MT1000™ LCD projectors. These compact products offer the highest quality image under all lighting conditions. Simple on-screen menus plus a hand-held remote make them very easy to use. They're backed by NEC's InstaCare™ 24-hour replacement [illegible]. And an introductory video gets you up and running quickly.

All of which makes them the ideal LCD projectors—whether you're training for a disaster, or just trying to keep your next presentation from becoming one. For a free guide to selecting the right projector, call us at 1-800-NEC-INFO. Or visit www.nec.com. Expect more. Experience more.

NEC
NEC Technologies

2 FOR MORE THAN A CENTURY, *the Red Cross has been quick to lend a helping hand. In addition to disaster relief, they present comprehensive health and safety programs such as CPR, HIV/AIDS education and Nurses certification programs. In fact, the Red Cross is a leading provider of such health and safety courses.*

4 IN A DISASTER, *one of the things that helps give you peace of mind is the rigorous training of the Red Cross. In a presentation, one of the things that helps give you peace of mind is the superior performance of the new MultiSync MT LCD projectors (not to mention their reliability and incredible ease of use).*

3 THE RED CROSS IS IN THE BUSINESS *of saving lives. In some ways, perhaps, one could argue that we are as well. You see, the new MultiSync MT Series LCD projectors are so reliable that they're backed by a whole new level of customer service. It's called InstaCare service from NEC Technologies. And in the unlikely event of a problem, it guarantees a replacement projector within 24 hours at our expense.*

and is only available in the U.S. and Canada. InstaCare is a service mark of NEC Technologies, Inc. ©1997 NEC Technologies, Inc.

**Circle 19 on reader service card**

publishing

# Scanners on the Move

NEW MODELS FROM MICROTEK, EPSON, UMAX, AND POLAROID

by Macworld Staff

With the recent proliferation of digital cameras, you may think that enthusiasm is waning for their technological cousins, CCD flatbed scanners. But just as digital cameras are getting better and cheaper, so are scanners.

Microtek (310/297-5000, www.microtekusa.com), Epson (310/782-0770, www.epson.com), and Umax (510/651-4000, www.umax.com) have all introduced relatively inexpensive flatbeds aimed at reducing your reliance on your service bureau's drum scanner. Meanwhile, LinoColor (516/434-2000, www.linocolor.com) has announced a trade-in program for its flatbed scanners, and Polaroid (716/256-4436, www.polaroid.com) has introduced a $10,000 scanner that can handle transparencies up to 4 by 5 inches.

**Two-Plate Special** Microtek's ScanMaker V TwinScan offers 48-bit color depth and a maximum optical resolution of 1,000 by 3,000 dpi. Software interpolation boosts the apparent resolution to 8,000 by 8,000 dpi.

The flatbed scans reflective originals at up to 11 by 14 inches but also features an internal Twin Plate for transparency scanning. The plate, which lets you scan without a glass between the film and the CCD image sensor, includes holders for 35mm slides, filmstrips, and 4-by-5-inch and 8-by-10-inch transparencies. The ScanMaker V was scheduled to ship in mid-December for $2,500 to $3,000.

**Two from Epson** Epson has two new scanners, a $300 model for SOHO users and a $2,500 flatbed for graphics professionals. The entry-level Perfection 600 features a 600-by-1,200-dpi optical resolution, 30-bit color depth, and a legal-size scanning bed. Bundled software includes Visioneer PaperPort, Adobe PhotoDeluxe, Xerox Textbridge, and Adobe PageMill. An optional transparency adapter costs $200.

The tabloid-size Expression 836XL, with its 800-by-1,600-dpi optical resolution and 36-bit color depth, is targeted at graphic-arts production. The scanner includes an autofocus feature and a pin system for precise alignment of originals. A Text Enhancement Technology feature improves optical-character-recognition accuracy. A transparency adapter costs $500.

Umax's PowerLook III features 1,200-by-2,400-dpi resolution.

**Umax Power** Umax has introduced the latest in its PowerLook series, the PowerLook III and the PowerLook 3000. Both are aimed at graphics professionals; the PowerLook 3000 in particular is positioned as a low-cost alternative to drum scanners.

The PowerLook III, featuring 1,200-by-2,400-dpi resolution and 42-bit color depth, handles transparencies up to 4 by 5 inches and reflective originals up to 8.5 by 11.7 inches. It sells for $3,995.

The $7,000 PowerLook 3000 offers a maximum resolution of 3,048 by 3,048 dpi and 42-bit color depth. A dual-lens system lets you scan letter-size originals at 1,220 by 3,048 dpi or 3.4-by-11.7-inch originals at the full 3,048 by 3,048 dpi.

Both scanners are bundled with Binuscan's PhotoPerfect Master color-correction software.

**LinoColor Trade** LinoColor, which sells relabeled Umax scanners with its own image-capture and color-correction software, has announced a trade-in program for its scanner customers. The Precious Gems program offers what LinoColor describes as "substantial credits" toward the purchase of a new LinoColor scanner when you trade in your old one.

**Polaroid Slides** The $10,000 SprintScan 45 Pro, from Polaroid, handles transparencies up to 4 by 5 inches. It samples images at 36 bits per pixel at 2,000-by-4,000-dpi optical resolution. The scanner is bundled with Binuscan's PhotoPerfect Master software.

## "APPLE ANNOUNCES LOSS"

*continued from page 23*

$1.45 billion in cash and short-term assets on hand.

Anderson again refused to predict when Apple will return to profitability. The current fiscal quarter—traditionally Apple's strongest for sales—could be bumpy, because Power Computing and Motorola are offering steep inventory clearance discounts on their clone systems.

**Executive Follies** Amid the losses, Apple's executive exodus continued, as the company announced the departure of Dave Manovich, senior vice president of international sales, and James McCluney, senior vice president of worldwide operations. Replacing Manovich on an interim basis is Mitch Mandich, senior vice president for North American sales. Heidi Hedlund, senior director of operations/product management, is the acting chief of worldwide operations.

Meanwhile, Jobs is doing a slow dance around the CEO position; he's currently the interim CEO but has repeatedly stated that he is not interested in taking the role on a long-term basis.

During a Q&A session following his keynote at the Macromedia User Conference, Jobs was asked if he would drop the "interim" from his job title. His response—that he would "think about it" during an upcoming vacation in Hawaii—fueled speculation that Jobs had decided to take the post. But a week later, Apple spokeswoman Katie Cotton warned against reading too much into his comment. "He only said he was going to Hawaii to take a walk on the beach, chill out, and think," she said.

Additional reporting by *MacWeek* staff.

ARNOLD TSOI/O

# Remembering Cary Lu

by Cathy Abes

Cary Lu, one of *Macworld*'s most respected and prolific contributing editors, was diagnosed with inoperable cancer last January. On September 23, 1997, he lost his nearly yearlong battle with the disease, just a few months shy of his 52nd birthday.

Cary was probably best known to *Macworld* readers as the author of the *PowerBook Notes* column, which ran from February 1993 through January 1996. But his contributions to *Macworld*—and the Macintosh community—went far beyond that. He regularly answered readers' questions on *Macworld*'s America Online forum and presided over the PowerBook panel at Macworld expos. An excerpt from his *Apple Macintosh Book* (Microsoft Press, 1984) appeared in our first issue.

**Hands-on Knowledge** Though PowerBooks were a favorite topic of Cary's, his broad knowledge extended to many other subjects. After the demise of his column, he wrote numerous in-depth articles on a wide range of hardware, including scanners, digital cameras, displays, projectors, storage and communications devices, and printers.

Cary's expertise went much deeper than that of most writers. He thoroughly tested everything he wrote about, made sure he understood exactly how and why it worked, and did his best to ensure that by the time you finished reading his article, you did, too.

Flawed hardware never fazed him. He could resolder defective circuit boards, fix faulty monitors, and rewire errant cables. When a connector or peripheral did not seem to exist, he figured out how to make his own. For example, in his last *PowerBook Notes* column, he showed how to make a cable adapter for Apple's PlainTalk microphone that would enable it to work with then-current PowerBooks.

Cary was equally knowledgeable about that other platform. During the blitzkrieg surrounding the rollout of Windows 95, he was one of the experts asked by news media for his opinion of that "wonderful" new operating system. Cary's characteristically succinct reply was probably the best sound bite of the day: "Windows 95 is about two-thirds of a Mac."

A perfect illustration of his reasoned approach to the battle then raging between Mac and PC advocates was an article titled "Computing's Holy War" (*Seattle Times*, June 18, 1995; www.macworld.com/more/), comparing Windows-based PCs—for the most part, unfavorably—with the Mac. Typically, Cary didn't proselytize; he just stated the facts and built solid arguments around them. The result resonated strongly with Mac users. The Word file he sent me containing the positive e-mail responses he'd received was 71 pages long.

**An Ultracritical Eye** Never one to be swayed by marketing hype, Cary was renowned for asking vendors the tough questions about their products' capabilities and worth. As they struggled to satisfy his concerns, he would eventually get them to admit that perhaps they still had a few holes to plug.

DAN ESCOBAR

Typically, Cary didn't proselytize; he just stated the facts and built solid arguments around them. The result resonated strongly with Mac users.

But Cary's long stint as a technology writer and editor—first with *High Technology*, then *Inc.* and *Inc. Technology* magazines, and later *Macworld* and *PC World*—was only one of his many careers. Armed with physics and biology degrees, he began as a scientist whose research in visual perception and technology at Bell Laboratories led him into television and filmmaking for educational programs like *Infinity Factory*, *Sesame Street*, and *Nova*. His many other areas of expertise included art, photography, Chinese cooking, classical music, audio equipment, and children's education—the latter at least partly inspired by his and his wife Ellen's determination to provide the best possible learning environment for their own children, ten-year-old Meredith and seven-year-old Nathaniel.

Unlike many technology writers, Cary did not worship technology; to him, computers were merely a tool, not an end in themselves. He maintained that books would always be the best archival medium because, long after any given computer operating system had been abandoned, they would still be readable by anyone. And while everyone around him was embracing the Internet with its vast storehouses of information, Cary stubbornly maintained his position that little of importance was to be found there; he had only recently admitted that perhaps it was beginning to become somewhat useful.

**Professional Demeanor** A consummate professional who treated everyone—regardless of their status—with courtesy and respect, Cary never shirked his responsibilities and always came through when we needed him. Just before going to the hospital for the last time, he called in final changes to his review of the PowerBook 2400c for our November 1997 issue because he knew I was waiting for them.

But as impressive as Cary's intellect and achievements were, they alone could not have evoked such an outpouring of emotion from so many people. A Web site (www.tidbits.com/carylu/) containing reminiscences from a wide range of friends, colleagues, and those who knew him only through his writings shows what a profound influence he had on those whose lives he touched.

Many of those same people shared their feelings at a memorial gathering October 18 at Seattle's Museum of History and Industry, where Cary had last May previewed his forthcoming book, *The Race for Bandwidth* (Microsoft Press).

As he did with everything else, Cary faced his illness with courage, dignity, and wry humor. Ultimately, he will be remembered—and missed—as much for his generosity, candor, humility, and concern for others as for his technological prowess. m

©1997 Adaptec, Inc. All rights reserved. Adaptec, the Adaptec logo and tagline, PowerDomain, and Remus software are trademarks of Adaptec, Inc. and may be registered in some jurisdictions. †FireWire is a trademark of Apple Computer, Inc. and is used under license. *All other trademarks belong to their respective owners.

Upgrade to Adaptec PowerDomain Plus with Wide UltraSCSI and desktop RAID.

**Cut the time it takes to open, manipulate, and save Photoshop* files by a third.** Yes, a *third*. All you need is Adaptec® PowerDomain™ Plus—a Wide UltraSCSI card capable of pumping 40MB/sec through Photoshop. It comes with our Remus™ desktop RAID software that totally cranks stuff across your hard drives. Adaptec also offers products that help you get digital video into your Mac from your DV camcorder like our 1394 FireWire† adapter. Or burn concepts onto CD with our Toast CD-recording software. Spend less time waiting and more time creating with Adaptec. **For details, call 1·800·804·8886 x7767 or visit: www.adaptec.com/macworld**

# New Products

THE LATEST MACINTOSH RELEASES

Edited by Keith Mitchell

## DISPLAY

### Multiplying Monitors

If you need high resolution but don't have the desk space for a 21-inch display, Sony (408/432-1600, www.sony.com/pc) and ViewSonic (909/869-7976, www.viewsonic.com) have monitors for you.

• Sony's CPD-120VS Multiscan Multimedia Display is a 15-inch monitor with a 13.9-inch-diagonal viewable area. The $529 display system has built-in speakers with a subwoofer and supports resolutions up to 1,280 by 1,024 pixels.

• ViewSonic's P775 17-inch monitor, priced at $799, has a 16-inch-diagonal viewable area and a maximum resolution of 1,600 by 1,280 pixels. The G773, another 17-inch display system, supports resolutions up to 1,280 by 1,024 pixels and costs $699.

### The Writing on the Wall

Projector manufacturers are pushing the technology envelope with new lower-priced products.

• The 14-pound DP9200 projector, from Proxima (619/457-5500, www.proxima.com), offers 1,024-by-768-pixel resolution at 500 lumens. The $11,999 projector includes a 1.6:1 motorized zoom lens and computer and video inputs. The $7,999 DP5800 provides 800-by-600-pixel resolution at 650 lumens. It weighs 19 pounds.

• The Polaview 315, from Polaroid (716/256-4436, www.polaroid.com), projects up to 1,280 by 1,024 pixels at 600 lumens. It has a PC Card reader that enables presenters to put their data on a PC Card for computer-free use. Also included are zoom and picture-in-picture capabilities. The projector weighs 21.5 pounds and costs $11,995.

## GRAPHICS

### Thumbnail Views

You've got lots of images stored on a variety of media. How do you find the one that's right for your latest project? ImageBook 2.0, from Gamut Imaging (714/779-2421, www.gamutimaging.com), scans your disks for images, automatically generating custom proof sheets and thumbnails. You can annotate the images and specify dimensions for images and proof sheets. The $100 program supports more than 40 image file formats. An enhanced version, ImageBook 2.0 Pro, priced at $250, supports Kodak's Photo CD discs and includes watermarking notification.

## MULTIMEDIA

### Lights, Action, Camera

DigiEffects' (415/841-9901, www.digieffects.com) $695 CineLook Broadcast plug-in for Adobe After Effects adds grain to the red, green, and blue video channels to achieve a match between video and film footage. The software uses its own frame-blending process to soften the video frames. Editors can use the standard After Effects plug-in interface or a customized interface that emulates stand-alone video-editing hardware.

*DigiEffects CineLook*

## ONLINE

### Video When?

A new streaming content-creation tool, VivoActive VideoNow 2.0, from Vivo Software (617/899-8900, www.vivo.com), is a simplified version of the company's VivoActive Producer. Intended for Web sites with moderate traffic, the $119 software provides the core features of VivoActive Producer, including voice and FM-quality audio, predefined settings of streaming parameters, and a simplified user interface.

### Searching High and Low

WebFind Assistant 1.0.1, from Crush! Software (718/263-0313, www.crushware.com), gives desktop access to popular search engines. The Mac-only program appears as a floating palette on the Mac desktop. You enter a keyword or phrase, choose one of seven search engines from a pull-down menu, and click on the Search button. The software then launches versions 2.0 or later of Netscape Navigator and Microsoft Internet Explorer and displays the results. A single-user license is $20.

### X Marks the Spot

Boutell.Com (206/325-3009, www.boutell.com) has released a Mac version of its image-map–editing tool, Mapedit. The $25 software lets you add clickable hot spots to your Web images without using a separate image-map file. Mapedit 2.3 saves the hot spots directly into the HTML code. It requires Apple's Macintosh Runtime for Java 1.5.

## PRINTING

### Pablo's Printer

With CD recorders more popular than ever, recording artists and multimedia developers need their discs to look good. The $1,199 Picasso CD Color Printer, from Mediastore (714/974-5551, www.mediastore.com), uses thermal ink-jet technology to print 24-bit, 300-dpi images on CD-R media. It can print one CD label in about two minutes.

*Picasso CD Color Printer*

## PRODUCTIVITY

### Beyond Charts

Tired of making presentations with the same old static chart? Spice things up with Adrenaline Charts SE 1.0, from Adrenaline Software (418/658-9909, www.adrenaline.ca). The $60 program enables you to integrate pictures, textures, QuickTime movies, and QuickDraw 3D objects into multimedia charts. The charts can be exported as PICT files, JPEG images, or QuickTime movies for use within presentation programs. Data can be imported from Microsoft Excel and ClarisWorks.

## SYSTEMS

### Don't Let a PC Stop You

Are you stuck working on a PC because of your job? Check out Gemulator 98 Advanced Edition, from Emulators (206/236-0540, www.emulators.com). It's a $200 Windows package that lets a PC emulate a 68040 (or earlier) Mac. It includes a half-size ISA card that holds Mac ROM chips, for speedier emulation. You can use any version of the Mac operating system, including Mac OS 8, but the product can't run PowerPC-native applications.

**VENDORS:** TO HAVE YOUR PRODUCTS CONSIDERED FOR PUBLICATION IN *NEW PRODUCTS*, SEND A PRESS RELEASE WITH PRODUCT DESCRIPTION, PRICE, AVAILABILITY, AND CONTACT INFORMATION FOR READERS, PLUS OPTIONAL PHOTO OR SCREEN SHOT, TO NEW PRODUCTS EDITOR, *MACWORLD*, 501 SECOND ST., SAN FRANCISCO, CA 94107; NEW_PRODUCTS @MACWORLD.COM.

# Set Your World in Motion

New Bryce 3D lets you create incredibly realistic, fully animated 3D worlds. Where rivers rush through gorges, the sun sets over the ocean, or mist evaporates to reveal flocks of birds soaring between mountain peaks. It's just like the real world–only you're in control!

**Real-world atmospheric effects.** Set every part of your 3D world in motion, including atmospheric effects like clouds, the phases and positions of heavenly bodies, star fields, and fog and haze that react realistically to light intensity and color.

**Complete animation control.** Easily scale, resize, or position object paths in seconds, then link them to create motion. Set camera and lights to track specific objects automatically.

**Unbelievably realistic terrains.** Paint height values for peaks, valleys, plateaus, and erosion, then animate the entire scene to show the forces of nature in action. For instant results, check out the real-time, rotating 3D preview.

**Fully animatable materials and textures.** Picture brick transforming into flowing water. Or a snow capped mountain emerging from winter into spring. Now you can make it happen!

Get Bryce 3D and set your
world in motion, the easy way!
Macworld
BEST of SHOW
1997 BOSTON EXPO
Bryce 3D
IT MOVES
Attention Bryce Owners!
Upgrade Today for Only $99
800.846.0111 Dept. 125
www.metacreations.com
MetaCreations
The Visual Computing Software Company
© 1997 MetaCreations Corp. All rights reserved. Bryce is a registered trademark of MetaCreations Corp. Scene rendered entirely in Bryce 3D.

Experience a day in the life of a prism.

*Because You Can.*

Right out of the box, the **Sony VAIO Tower** (shown with VAIO 220VS Display) has all the software and processing power needed to explore digital imaging, video editing and website publishing.

Wirelessly beam your favorite photos from Sony's **DSC-F1 Digital Still Camera** straight to your PC†, then show them off to your family and friends using your Sony display.

*Improve your world view*

*with the new vertically-flat*

***Sony GDM-400PS 19" Trinitron® Display,***

*featuring an 18" viewable image, plus Active Signal Correction (ASC™) circuitry, which automatically sizes and centers your image at the touch of a button.*

Capture your vision in vivid detail with the **DCR-VX1000 Handycam® Camcorder** and edit it with amazing precision and clarity on your Sony display.

**Sony VAIO™ Notebook and Docking Station** combine to give you a full multimedia experience, plus seamless connections to your Trinitron display, VAIO All-in-One Printer and more.

***For more info: 1-888-552-7669 or www.sony.com/imagination***

here is a place where ideas bask in sheer beauty, intense color and amazing clarity. But until this moment, it was only in your ind. Introducing the Sony GDM-400PS, one of 14 displays designed to bring your imagination yet another step closer to reality.

VAIO In addition to Sony's renowned Trinitron technology, the GDM-400PS also features a new flatter (over 40%*) CRT esign for more accurate images, not to mention less glare. Plus Sony's new Elliptical Correction System improves image accuracy p to 35%.** And finally, like all of our displays, the GDM-400PS is fully compatible with your C or Mac.® Just open the box to all the possibilities. And your mind is sure to follow.

SONY

*Sony's new 19" and 21" CRT technology is 40-50% flatter than traditional aperture grille and FST CRTs. **Up to 35% improvement in beam shape accuracy over last year's model. †Supports Microsoft Windows® 95 IrDA Device Driver Version 2.0 (included) — IrDA adapter for computer required. SOITA-04

# Reviews

## Quicken Deluxe 98

NEW VERSION ADDS EVEN MORE GOODIES TO A POPULAR PRODUCT

BONNIE RIESER

QUICKEN, INTUIT'S LEGENDARY financial manager, was once a simple but rich and rewarding product—kind of like a bowl of really good vanilla ice cream. Over the years, Quicken upgrades have added basic sundae toppings, in the form of financial-planning tools, QuickTime movies, interactive help, and more. With Quicken Deluxe 98, Intuit adds the financial equivalent of nuts, sprinkles, and M&Ms: No one will have trouble living without built-in Internet access to mortgage and insurance information, an emergency records organizer, investment help, or a tax-deduction finder, but many people will benefit from them. Intuit has also enhanced the basic program's appeal with subtle but satisfying changes to the registers, reports, and reconciliation features.

### Plain-Vanilla Pluses

Registers—Quicken's detailed checkbooklike account lists—sport a new Shortcuts button that lets you schedule or move transactions via a pop-up menu; the same menu lets you quickly create reports on a transaction's payee or category. In addition to showing transactions with multiple categories or memos, the Splits window now automatically changes size to display more items. The Registers' nicest new feature, though, is the account bar, which appears at the bottom of the screen and lets you quickly switch among accounts. (Unfortunately, only the five most recently opened accounts appear in the bar, and you can't set it to always include your favorite accounts.) A new Total line at the bottom of the account list allows you to view your net worth without having to create a report or graph.

Quicken's reports have gained some wonderful features too. The Sample view generates an example of a report when you click on its name in the report list, to give you an indication of whether it's the report you're seeking. Some report styles have changed in this version; notably, negative items now appear in red. Oddly enough, this alteration means that if you've overspent your budget, the difference appears in black; if you still have money left to spend, the difference is shown in red—a difficult shift to grasp.

Much more significant are Quicken's new icons and pop-up menus that let you edit your report's fonts, dates, headers, titles, and other elements from within the report itself. This editing ability alone makes the upgrade to Quicken 98 worthwhile for anyone who regularly uses reporting features.

If you've ever struggled to decipher the Reconcile window, you'll appreciate

REAL PRODUCTS REAL RATINGS
Reviews you can trust: Unlike other publications, Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.
Outstanding ★★★★★ = 9.0–10.0 Very Good ★★★★ = 7.0–8.9 Good ★★★ = 5.0–6.9 Flawed ★★ = 3.0–4.9 Unacceptable ★ = 0–2.9

the instructions displayed within the window itself; a check box lets you hide the instructions if you don't need them (see "Green Is Good"). The Status window shows your balance and cleared items, as well as the difference between the bank's balance and your own (highlighting what remains), and cleared items now appear in green. The New Transactions button lets you quickly add transactions you've forgotten, and the Smart Reconcile feature tracks previous reconciliations, making it easier to review your past records and uncover any problems.

Quicken's internal online banking features have been improved as well. By signing up for Intuit Online Payment ($9.95 per month, administered by the same group that handles the popular CheckFree service), you can make online payments from any U.S. checking account or any other domestic account that lets you write drafts or checks. The Payment Log shows all your activities for a 60-day period and lets you edit or cancel transactions or retrieve information about the status of your payments.

You can also apply for online banking services from a long list of financial institutions that work with Intuit. Unfortunately, the Web-based sign-up process proved confusing and difficult: I'd recommend getting the information you need from your bank before attempting anything within Quicken. If you already use online banking, you'll be pleased to discover the revised Download Transactions screen, which includes downloaded data and the account register in one screen. At last you can make edits without switching windows!

### Chocolate or Multicolored Sprinkles?

A pleasant addition to Quicken 98's Deluxe version is QuickEntry, a fast, simple utility that lets you enter transactions into registers without opening the Quicken application. It's small enough that you could keep it open permanently, but since it doesn't have a close box—you're stuck with a window permanently open on your screen—you may not want to. The next time you open Quicken, your transactions are added to your data file.

The new Emergency Records Organizer follows the step-by-step model of Quicken Deluxe's earlier Net Worth and Retirement planners. It's not particularly elegant, but it does let you store information about all your important records, from birth certificates to investment documents, in one central location. The Organizer includes a valuable password-protection feature that protects you from having your Social Security, credit-card, or bank-account numbers fall into the wrong hands in case of burglary or unauthorized use of your Mac.

Following the same planner model, the Tax Deduction Finder leads you step-by-step on a search for qualifying expenses. This process has great potential, but despite the complexity of my own taxes, it was a waste of time—I didn't find a single item I'd missed. Maybe next year.

**Green Is Good** In Quicken 98's new Reconcile window, cleared items are displayed in green, making it easy to see which transactions you've reconciled and which you haven't.

Overall, not much has been changed in Quicken's investment module, but a new graph option lets you display multiple investments on a single chart. Unfortunately, the graph couldn't compensate for a stock split (despite a check box that *should* have enabled this capability) and occasionally had trouble displaying all of my chosen securities, even when they appeared properly in the key.

### Online Additions

Intuit has added links within Quicken to Web sites featuring insurance, investment, mortgage, and financial-planning information. These sites are interesting and provide some valuable data, but it's important to note that you don't need Quicken to use them.

To set up Quicken for Web access, you could follow the step-by-step Apple Guide instructions via the Getting Started With Online Banking command, but my advice is to avoid them. During several attempts to use the directions, I found them highly erratic, with random red lines or circles appearing in odd places and steps being skipped entirely. Luckily, it's easy enough to set up Web access without the directions. Just choose Preferences from the Edit menu, click on the Internet icon, select a connection method —AOL, CompuServe, or ISP—and then choose a Web browser.

With Web access enabled, you can check out all sorts of financial-planning information as quickly as your modem allows. The InsureMarket site lets you see quotes on life insurance from top companies (the company plans to add quotes for auto and homeowners' insurance this fall and winter, respectively), and the NetWorth site offers stock news, price charts, and dynamic graphing for investors. There's also an online tax center with tips and suggestions and a mortgage center that provides rate comparisons from leading lenders. Like most other Web sites, these sites are all regularly updated and upgraded. I occasionally encountered broken links and "file not found" errors, but the dynamic aspect of the Web means that you may also discover new and interesting information to improve your financial life on an ongoing basis.

### Macworld's Buying Advice

Like many other Quicken users, I was perfectly satisfied with the bowl of plain-vanilla ice cream I had years ago in Quicken 4. Over the years, I haven't always been enchanted with the trade-offs each new version has brought, but overall—despite some fit-and-finish problems—I'm pleased with Quicken 98. The new report features found in both Quicken Basic 98 and Quicken Deluxe 98 are wonderful, while QuickEntry (found only in the Deluxe version) is quite handy. I can take or leave most of the other new features—specifically the Web links and the Emergency Records Organizer. Like M&Ms on a sundae, they're nice to have but far from essential.—WENDY SHARP

**RATING:** ★★★/6.9 **PROS:** Flexible report features; fast, handy QuickEntry utility in Deluxe version. **CONS:** Minor bugs; Internet features aren't Quicken-specific. **COMPANY:** Intuit (415/944-6000, www.intuit.com). **LIST PRICE:** Deluxe version, $59.95; Basic version, $39.95.

# Maxpowr Pro Series

## POWERPC 750 CARDS MAKE GOOD ON TSUNAMI ARCHITECTURE'S UPGRADE PROMISE

THE CLONES ARE DEAD, AND I miss them already. Power Computing, Umax, and others had a terrific habit of releasing new technology earlier than Apple and selling their wares at competitive prices. Motorola was poised to ship its StarMax Pro 6000/300, the first computer based on the lightning-fast PowerPC 750 CPU (code-named G3), as Mac OS licensing was halted. Three weeks later, after the termination of the StarMax 6000 and other G3 clones, Apple announced plans for its own midrange PowerPC 750 machines, all with processor and cache bus speeds slower than those of the planned StarMax Pro.

Newer Technology's Maxpowr Pro processor cards reputedly work with any upgradable Power Mac (except Power Computing's Catalyst-based PowerCenter series): Apple's 7300, 7500, 7600, 8500, 8600, 9500, and 9600; Power Computing's PowerWave and PowerTower Pro series; and Umax's SuperMac J700 and S900 series. You take the old processor out, put the Maxpowr Pro in, press the logic-board reset button, and you're in business. I tested a Maxpowr Pro+ in my SuperMac S900/200 and had everything up and running without incident in a matter of minutes. Macworld Lab tested the cards in a sampling of machines from Apple and Power Computing. The Lab couldn't get the Maxpowr Pro to work with a Power Mac 7300 with the card set to its highest speed (50MHz), but otherwise the Maxpowr Pro proved compatible across the board.

The two models in the Maxpowr Pro series sport slightly different clock speeds and radically divergent prices. The 250MHz Maxpowr Pro lists for $1,395 (about $1,250 street), whereas the 266MHz Maxpowr Pro+ costs a whopping $2,499 (about $2,200 in stores). The reason for the $1,100 discrepancy has little to do with the minor 16MHz difference in clock speed and almost everything to do with the size and speed of each card's cache.

### Backside Boost

In most 604e-based Macs, data travels between the cache and the CPU over the system bus, which tops out at 50MHz. The Maxpowr Pro cards are the first to employ backside cache, in which the cache resides directly on the processor card and links to the CPU chip via an independent bus. The less expensive Maxpowr Pro has a 512K cache that communicates with the CPU at 125MHz, half the CPU's clock speed. The high-end Maxpowr Pro+ includes 1MB of cache with a backside bus speed of 177MHz, 67 percent of the CPU's clock speed.

In Macworld Lab's SpeedMark tests, the 250MHz Maxpowr Pro boosted the overall speed of an aging Power Mac 7500 by more than 200 percent, a speed surpassed only by that of the new Power Mac 9600/300. With the 266MHz Maxpowr Pro+ installed, the 7500 beat even the 9600/300, being 6 percent faster in the SpeedMark CPU tests and 9 percent faster in the FPU tests. Both cards would have performed even better if we had outfitted the 7500 with a new hard drive and video card, but the older hardware is more in keeping with the experiences of typical users. Most upgradable Power Macs will benefit dramatically from having either of Newer's Maxpowr Pro cards.

### Macworld's Buying Advice

I was amazed by the increase in the speed of my SuperMac S900. The machine started up about 50 percent faster, I didn't have time for my usual coffee break while launching Microsoft Word, and I was able to play a 320-by-240-pixel QuickTime movie at the full 30 frames per second without special acceleration hardware. The only drawback is the price—particularly that of the Maxpowr Pro+, which costs more than Apple's 266MHz G3 system (see "Apple's Next-Generation Systems," in this issue). Luckily, forthcoming PowerPC 750 cards from PowerLogix and Total Impact should provide a more competitive atmosphere and lower prices all around.—DEKE McCLELLAND

### Maxpowr Pro Series

**MAXPOWR PRO 250/125** ★★★★/7.1

**MAXPOWR PRO+ 266/177** ★★★★/7.2

**PROS:** Virtually doubles the speed of Power Macs that have upgradable CPUs. **CONS:** Price of Maxpowr Pro+ equivalent to that of a new computer. **COMPANY:** Newer Technology (316/943-0222, www.newertech.com). **LIST PRICE:** Maxpowr Pro, $1,395; Maxpowr Pro+, $2,499.

Macworld LAB TEST

## Maxpowr Pro Series: Cache Boosts Performance

Longer bars are better. An Apple Power Macintosh 7100/80 has a SpeedMark score of 1.0. ►New product.

| | CPU | FPU | Disk | Video | Star Rating |
|---|---|---|---|---|---|
| Power Macintosh 7500/100 | 1.2 | 1.1 | 1.2 | 1.9 | discontinued |
| ► with Maxpowr Pro 250/125 | 4.4 | 4.3 | 2.0 | 4.5 | 7.1 |
| ► with Maxpowr Pro+ 266/177 | 5.2 | 4.7 | 2.2 | 5.7 | 7.2 |
| Power Macintosh G3 233 desktop prototype | 4.5 | 4.1 | 2.7 | 6.5 | not shipping |
| Power Macintosh G3 266 tower prototype | 5.0 | 4.2 | 3.0 | 6.9 | not shipping |

**Behind Our Tests** All PowerPC 750 products, except the Maxpowr Pro+ 266/177 (which has 1MB of cache), have 512K of cache. For detailed information on our methodology, refer to www.macworld.com/tests/.—**Macworld Lab testing supervised by Jeffy Milstead**

# ClarisWorks Office

## INTEGRATED PACKAGE IS STILL A SUITE DEAL

OFFICE SUITES TYPICALLY include industrial-strength programs, any one of which is a top contender in its field. In the Windows realm, Microsoft Office, Lotus SmartSuite, and Corel WordPerfect Suite, contain Excel 97, Lotus 1-2-3 97, and Quattro Pro 8, respectively—all top-quality spreadsheet programs.

Viewed in that light, ClarisWorks Office is more marketing spin than powerhouse collection. Built around the minimally revised ClarisWorks 5.0, ClarisWorks Office offers a great value—especially if you don't already have an existing set of software and need an all-in-one productivity package—but owners of ClarisWorks 4.0 shouldn't rush to upgrade.

### Small Changes, Big Value

The core of ClarisWorks Office is ClarisWorks 5.0, and once again, Claris has chosen to refine the program's features rather than indulge in wholesale change. This incremental approach ultimately proves successful; ClarisWorks 5.0 is easier to use than its predecessors, thanks to a fully customizable button bar that replaces the old Shortcuts floating palette and allows you easy access to virtually all of ClarisWorks' features. You can create new buttons, move or delete predefined buttons, and switch among button bars. A pop-up menu switches you to the Internet button bar, and a single click launches your preferred mail program.

Alas, Claris has once again missed the opportunity to integrate its different products tightly. If you're willing to invest a bit of time in scripting, though, ClarisWorks' buttons can store macros or trigger AppleScripts, to provide a wide range of integration possibilities. I can easily imagine addressing a letter by typing my correspondent's name and then pressing a hot key that would look up the person's mailing address from Claris Organizer and insert the address automatically. Unfortunately, that just isn't possible unless you write a script yourself.

### Web Works

But ClarisWorks 5.0 *does* integrate well with the Internet. Within any word-processing document, spreadsheet, or drawing, you can create hyperlinks (called bookmarks) that connect to other places within the same document, to other ClarisWorks documents, or to Web pages via embedded URLs. Clicking on a Web link launches your preferred browser, connects your Mac to the Internet, and loads the specified page.

You can also create simple Web pages within ClarisWorks' word processor, thanks to a much improved HTML-conversion translator. The included Claris Home Page Lite lets you create more-ambitious Web pages but lacks the full version's support for direct HTML editing, frames, and forms, among other features. Two Internet service providers' packages on the CD-ROM include Web-browser software and a program that helps you get signed up to the service and onto the Internet quickly.

**Making Connections** ClarisWorks' new hyperlink feature lets you create URL and document links from the Links palette, and Web pages you create can then be exported as HTML. The expanded clip-art libraries provide graphics pizzazz.

### More Modest Enhancements

Other ClarisWorks changes are relatively minor. The word processor's text ruler has been reorganized, with helpful page guides that appear when you move margins or tabs. A new equation editor aids science- and math-oriented users, and the Function button on the spreadsheet's status bar makes it easier to insert math functions. You can—at long last—name cells and ranges, and rows and columns can now autosize to their contents.

Within the database module, the new Multimedia field type lets you store pictures, sounds, or QuickTime movies, and database fields can hold up to 1K of text—double the previous limit. The new Texture palette offers 120 options and works with the painting module's spray can, bucket, and brush tools and with the fill tools within the draw module.

Novices and professionals alike will appreciate the vast quantity of stationery documents bundled with ClarisWorks Office. The JIAN Business Basics collection includes 64 useful word-processing and spreadsheet templates for common business operations. In addition to more than 20 accounting spreadsheets, management templates include, for example, articles of incorporation, public-relations documents, and worksheets for trade-show planning. Claris has also added more than 200 other stationery layouts for home, business, and school users. New clip-art libraries include more than 1,000 images that can be used for slide shows, drawings, and Web pages.

### Macworld's Buying Advice

ClarisWorks Office preserves the true strengths of the original ClarisWorks: It requires a mere 2.5MB of RAM and still works on any Mac with a 68020 processor or better. Speed complaints are rare with ClarisWorks, and the various modules work exceptionally well together. Although the ClarisWorks Office components lack the depth of features available in their Microsoft Office counterparts, they're more than sufficient for home, school, and small-business users—at a cost savings of hundreds of dollars. ClarisWorks 4.0 users probably won't find any pressing need to upgrade, but if you're buying your very first Mac, ClarisWorks Office provides all the software you'll need to get started.—TOM NEGRINO

**RATING:** ★★★★/8.3 **PROS:** Good stationery and clip art; welcome, though minor, improvements to ClarisWorks. **CONS:** Less office than you might expect. **COMPANY:** Claris (408/727-8227, www.claris.com). **LIST PRICE:** $99; $30 rebate for upgrades.

# Personal Information Managers

LOTUS ORGANIZER 97 GS, ACT 2.8 ADD LITTLE TO THE GENRE

LOTUS ORGANIZER IS THE LATEST entry into the crowded personal-information-manager (PIM) market, while Symantec's Act has been around for years. But although they approach their duties from two radically different directions, neither product brings much to the table that existing PIMs don't already offer.

### Contact Central

Offering more than 70 customizable fields, Act 2.8 handles any kind of contact information you can throw at it. Pick lists—pop-up lists of predefined entries—cut down on typing, but an autocompletion feature would work better. Based on the assumption that you'll always want to associate activities with a particular person, Act has you schedule events by clicking on fields in the contact window.

Organizer's methods are less contact-centric; you shuttle among seven individual sections by clicking on tabs. Organizer's address-book module isn't as comprehensive as Act's, but it's probably sufficient for most people's needs. Data-entry shortcuts are limited, however.

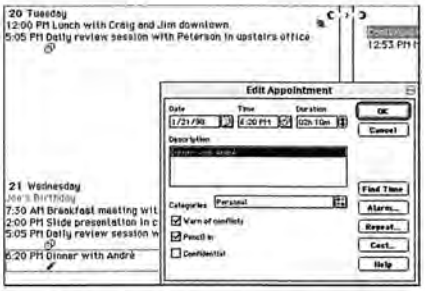
Both PIMs let you track interactions with clients, although Act—with its ability to automatically record and display all events associated with a given contact—proves much more comprehensive. Organizer lets you schedule and record details about phone calls, but there's no way to associate a to-do or anniversary item with a particular person.

### Time Control

Managing schedules and to-do lists never has been Act's strong suit, although the latest release incorporates several enhancements, including the ability to display more event information in calendar windows. Unfortunately, some annoying limitations still haven't been remedied. Act's scheduling dialog box doesn't provide sufficient room for event descriptions, and there's no way to accommodate to-do items that aren't associated with a particular date.

Organizer's time-based functions are spread across five modules. Fortunately, you can create a new entry in any section without leaving the module you're working in. Organizer also lets you display entries from other sections in your appointment book, so you don't have to switch to the anniversary module to find that you forgot your spouse's birthday.

You can book several events in succession without leaving Organizer's dialog box, and you can "pencil in" tentative appointments (see "Flexible Events"). And although Organizer lets you set alarms for timed events, you have to enter the date and time for the alarm if you want to be notified more than one day in advance. Worse yet, Organizer must be running for you to receive reminders, unlike Act, which uses a separate background application to activate alarms.




**Flexible Events** Tentative events appear with a pencil symbol in Organizer's day and week views.

### Ins and Outs

Over the years, Act has shed its Windows origins and become more like a Mac application, with fewer modal dialog boxes and more resizable windows (see *Reviews*, July 1996), but its interface is still a bit drab for my taste. On the other hand, Organizer commits GUI overkill, serving up a confusing jumble of tools that makes it hard to pick the appropriate icon; I found it much easier to use Organizer's logically arranged menus.

Both PIMs provide multiple ways to print schedules and contact information, with layouts for several popular paper-based planners. Act even sports an integrated word processor that's more than capable of handling letters and other simple documents. Organizer and Act also let you send e-mail to contacts, but Organizer works exclusively with Lotus Notes. Act lets you use other e-mail clients.

Both programs let you share files over a network, and Organizer lets you perform group scheduling if you use Lotus Notes. Both Symantec and Lotus claim compatibility with their Windows PIMs, but you can't share files with Act 3.0 for Windows. Either program lets you exchange data with other PIMs, but Organizer's import function is flawed: The program requires that every time be preceded by a date, so you may have to rearrange your data before importing it.

Act is twice as expensive as Organizer, but it uses far less memory—4MB versus 11MB—a significant difference if you want to keep your PIM running all the time. Organizer also suffers from a few bugs, ranging from cosmetic problems to occasional unexpected quitting.

### Macworld's Buying Advice

If your primary goal is contact management, Act is the better choice of these two products. Organizer is worth considering only if you are already using Lotus Notes and need to do group scheduling. Most users, though, are better off choosing Now's full-featured PIM duo, Up-to-Date and Contact 3.6.5 (see *Reviews*, June 1997). Priced below $100, the pair costs less than Act and provides far more functionality.—FRANKLIN TESSLER

#### Act 2.8

**RATING:** ★★★/5.6 **PROS:** Light memory requirement; strong contact manager. **CONS:** Limited scheduling functions; lackluster interface. **COMPANY:** Symantec (408/253-9600, www.symantec.com). **COMPANY'S ESTIMATED PRICE:** $169.95.

#### Lotus Organizer 97 GS

**RATING:** ★★/4.0 **PROS:** Efficient event scheduling. **CONS:** Poor import functions; must be running to receive alarms; high memory requirement; works only with Lotus Notes for e-mail. **COMPANY:** Lotus Development (617/577-8500, www.lotus.com). **LIST PRICE:** $85.

# Motion-Detection Software

## PACKAGES OFFER DIVERSION, SECURITY, FRUSTRATION

EVER WONDER WHO'S MAKING off with your jelly beans while you're away from your desk? Or who's sneaking your office supplies without leaving a note? You can find out by using a motion-detection utility with your video-camera–equipped Mac. Two such utilities, Connectix's DigitalRadar 1.0 and Channel D's DeltaVideo 1.1, offer a range of tools for monitoring, recording, and responding to movement that occurs in front of your computer. DigitalRadar succeeds as a slickly executed amusement; DeltaVideo promises greater precision and analysis capabilities but falters in its implementation.

### Setting the Trap

Both packages are a snap to install; with either package, you're ready to begin video surveillance within minutes. Of the two, however, DigitalRadar is more polished and more fun to use. One of its windows displays the camera's field of vision, while the other displays a graphical activity log. You configure the program's various features using well-designed dialog boxes; the documentation is similarly clear and concise.

Unfortunately, DeltaVideo lacks a similar fit and finish. With its garish colors, cramped dialog boxes, window-redrawing gymnastics, and tunneling and blinking cursor, DeltaVideo's interface can cause confusion and headaches. To be fair, it's not a particularly difficult interface to navigate; it's just less pleasant than you would expect from a modern Macintosh application.

Both packages require a 68030 or better processor, System 7.1 or newer, QuickTime (version 2.1 for DeltaVideo and 2.5 for DigitalRadar), 10MB of disk space, and 4MB to 5MB of available RAM on Power Macs. They support standard video sources, including Connectix QuickCams. I tested each with a Color QuickCam connected to a Umax SuperMac S900/233 and a range of older Power Macs.

### Secret Weapons

DigitalRadar and DeltaVideo offer different takes on motion-detection video. DigitalRadar defaults to recording motion in a movie format, starting when motion is detected and concluding when motion stops. You can also configure it to take single snapshots. Thumbnails of snapshots and movie clips appear in the log window with corresponding date and time information, and you can view the full-size picture or play the QuickTime movie by double-clicking on its log entry. Unfortunately, there's no way to stamp the time and date directly onto the snapshots or QuickTime videos, nor any way of indicating which location triggered the motion detector.

DigitalRadar provides an option for rendering log files invisible and locked in the Finder, and you can password-protect the logs. If you want to let your prey know they're being watched, you can configure DigitalRadar to play a sound whenever it detects motion (a variety of warning and alarm sounds are included); alternatively, the program can respond by launching a designated application or AppleScript. Date- and time-scheduling options allow you to set up DigitalRadar and have it perform its motion-detection duties without additional intervention.

DeltaVideo defaults to capturing snapshot images when it detects movement, and it allows QuickTime recording only for a fixed period after activation (for example, you can set it to record five seconds of video after a detected movement). Captured images are displayed in an on-screen contact sheet; you have to open QuickTime movies from the Finder. Although DeltaVideo can pass Apple events to other applications when it detects movement, it doesn't offer a built-in alarm or greeting feature. Overall, DeltaVideo is less suited to casual users looking to have a little spying fun.

DeltaVideo does, however, pack some advanced features that make it compelling for more-sophisticated uses. You can limit motion detection to a rectangular area within the camera's field of vision; the application automatically notes the coordinates where motion was detected and can label its snapshots with time, date, numeric coordinates, and a large pointer indicating the area of the picture that triggered the capture. You can tell DeltaVideo to capture snapshots when motion is detected, at regularly timed intervals, or using some combination of the two. DeltaVideo can save log files as a QuickTime movie, creating a time-lapse animation; as a contact sheet; or as a text file—useful for analysis and charting within your favorite spreadsheet application.

But DeltaVideo has several bugs that seriously degrade the user experience. During testing, the program crashed repeatedly when I tried to use its limited-area motion-detection and QuickTime-capture features. I also encountered a variety of less repeatable crashes. Channel D has posted a revision that fixes the most egregious bug, and I was able to work around several of the others.

**Busted!** Connectix's DigitalRadar monitors your workspace and captures the action to disk.

### Macworld's Buying Advice

Although neither of these packages is likely to appeal to serious security experts, each has its virtues. Users looking to add a little fun and function to their Macs will adore DigitalRadar; those with motion-tracking and -analysis needs will find DeltaVideo attractive but its interface and stability problems off-putting.—J. W. DAVIS

#### DeltaVideo 1.1

**RATING:** ★★/4.1 **PROS:** Detection-area specification; frame labeling; text export. **CONS:** Rough interface; occasional crashes; poor movie support. **COMPANY:** Channel D (732/933-9388, www.channld.com/sw.html). **LIST PRICE:** $99.

#### DigitalRadar 1.0

**RATING:** ★★★★/8.2 **PROS:** Attractive interface; works exactly as advertised. **CONS:** Lacks labeling and text logging. **COMPANY:** Connectix (415/571-5100, www.connectix.com). **COMPANY'S ESTIMATED PRICE:** $29.95.

# Video-Effects Software

## COMMOTION AND ILLUMINAIRE PAINT SHOW PROMISE BUT NEED SOME REFINEMENT

VIDEO-EFFECTS MAVENS, TAKE notice: two new applications offer relief from repetitive, frame-by-frame tweaking. Discreet Logic's Illuminaire Paint 1.1, an object-oriented video-painting application, lets you control still images in video clips. Puffin Designs' Commotion 1.0.5 video- painting and -compositing application lets you work with multiple video clips. Both offer keyframing and other features for manipulating objects across time, along with Photoshop-like drawing tools and effects filters. But Illuminaire Paint supports a variety of painting and drawing options and third-party effects filters, while Commotion is more useful for adding special effects to a finished product and cleaning up images.

### Pretty Babies?

Of the two, only Commotion looks like a mature Mac application. Its interface is similar to Photoshop's, with windows that display information intuitively in collapsible menus. Illuminaire Paint sports more windows than Commotion but fewer tools. Its tool and radio buttons are shallow and have a stenciled look that makes them difficult to read.

But whereas Commotion lacks text capabilities, you can do most or all of your titling in Illuminaire Paint; Illuminaire supports Adobe Type 2 and PostScript fonts, although its text-tool options are woefully limited. Once the type has been rendered, however, manipulating it is easy. Each character appears as a separate object in the Timeline window, making it a breeze to fix typos and create multiple versions of a clip.

### Distinguishing Features

Commotion's rotosplining function, its most useful feature, lets you create Bézier paths around objects over time (see "Along the Path"). By changing the shape of the paths frame by frame, you can create animated splines and play them back in real time. However, the most versatile tool in Commotion's arsenal is its Super Clone brush, which allows you to toggle among up to four source images and preview them against the target image before compositing.

Illuminaire Paint's object-oriented approach gives you easy control over keyframing using the Timeline window, which lists all the clip's objects and their properties. By toggling the on/off control button next to objects along the length of a clip, you can let Illuminaire Paint interpolate their movement between the keyframes and save yourself hours of manual labor. Alas, Illuminaire Paint's timeline is a mess; to view discrete objects in the Timeline window, for example, you're forced to pull it out so far as to obscure other palettes.

Illuminaire does support plug-ins for Adobe Premiere and AfterEffects and MetaTools' Final Effects, along with QuickTime, Photoshop, PICT, and Targa file formats. Commotion supports only QuickTime and PICT and doesn't support third-party plug-ins at all, but it has the same drawing tools and effects filters as Illuminaire Paint and adds others that let you avoid having to repair earlier, uncompiled versions of your video. Its wire-removal brush, for example, quickly erases wires and other fine lines. You can set the brush's options to either clone ("restore") pixels from neighboring frames or blend ("seam") adjacent pixels within the frame.

### Playback Time

Both applications promise real-time video playback, but only one delivers. Illuminaire Paint's full-size playback is excruciatingly slow—the price of its comprehensive, object-oriented approach. It simply tries to play clips as fast as possible, which is never fast enough to be considered real-time; instead, you must track objects by reading their *x* and *y* coordinates.

Commotion offers a more manageable approach to real-time video playback. Its Load Frames dialog box offers a slider that lets you isolate the frames you need to work on; another slider lets you select a subset of the frames loaded into RAM for playback.

If you have a Power Mac with built-in video input or a video-editing card and at least 156MB of RAM, you can easily get 30-fps playback of uncompressed, broadcast-quality video. And Commotion's Auto Frame Spool option can load subsequent frames into RAM by caching the first frame to a scratch disk, although that slows playback considerably. Illuminaire Paint lets you specify any frame rate you like, but you're unlikely to see anything in the neighborhood of 30 fps.

Although the vendors of both products make substantial performance claims for their software on Macs with minimal available RAM and without video cards, neither Illuminaire Paint nor Commotion makes sense for low-end systems. If you're unwilling to drop a couple hundred dollars on RAM, you'll find the cost of these two downright prohibitive.

**Along the Path** Commotion's rotosplining function makes matting quick and easy.

### Macworld's Buying Advice

If you need to compile multiple clips in a hurry but don't want to give up basic filter effects, check out Commotion. Illuminaire Paint is too slow and unattractive at this point in its development, but the application does show some promise, particularly in its support for third-party plug-ins.—MARK BAARD

### Commotion 1.0.5

**RATING:** ★★★/5.7 **PROS:** Good design; real-time video playback, even with limited system resources. **CONS:** No support for plug-ins. **COMPANY:** Puffin Designs (415/331-4560, www.puffindesigns.com). **LIST PRICE:** $2,495.

### Illuminaire Paint 1.1

**RATING:** ★★/4.5 **PROS:** Easy keyframing of discrete objects over time. **CONS:** Poor design; slow. **COMPANY:** Discreet Logic (310/618-9700, www.illuminaire.com). **LIST PRICE:** $1,995.

*"Norm the Bee Guy" as printed on the EPSON Stylus Photo.*

# INTRODUCING THE FIRST PRINTER THAT'S AS RELENTLESS ABOUT CAPTURING A PHOTOGRAPH AS YOU ARE.

It's called the EPSON Stylus® Photo and its virtually continuous tone printing treats your photo with the respect it deserves. How? With Micro Piezo™ ink jet technology—the cleanest, most consistent way to get 6 colors of ink on paper. The results? Incredibly smooth gradations, amazing detail and perfect color. Now, nothing will stop you from getting a great print of your photograph. After all, nothing stopped you from capturing it. Not even a swarm of hungry bees. For more information, call 1-800-GO-EPSON and ask for Operator 3010. Or visit www.epson.com.

**VIRTUALLY CONTINUOUS TONE 6 COLOR PRINTING / 720 X 720 DPI / FULL MAC & WINDOWS COMPATIBILITY / $499***

*Street price may vary. EPSON and EPSON Stylus are registered trademarks of Seiko Epson Corp. Micro Piezo is a trademark of Epson America, Inc. ©1997 Epson America, Inc.

YOU'VE GOT TO SEE IT IN EPSON COLOR.

# MP-EG1A

## MPEG CAMERA PERFORMS BETTER WITH WINDOWS

HITACHI'S MP-EG1A HINTS THAT the days of separate still-photo and movie cameras are drawing to a close. It's a camcorder, a digital camera, and a voice-recording device all in one. And best of all, the MP-EG1A—which Hitachi has informally dubbed the MPEG Cam—records to a tiny 260MB hard disk instead of tape.

Current digital camcorders rely on Mini DV tapes that are as subject to the arbitrary scourges of munching and snapping as their common VHS cousins. The MPEG Cam wouldn't know a tape if it wrapped itself around the camera like a boa constrictor. Like some digital still cameras, it records to a pocket-size PC Card. But whereas a typical Type II PC Card holds 10MB to 20MB, Hitachi's 260MB Type III PC Card boasts a tiny, surprisingly durable hard drive. I inadvertently dropped the camera from a height of 3 feet onto my driveway without losing a single frame of stored data.

### Capacity and Framing

With a 260MB card, the MPEG Cam holds 20 minutes of moving MPEG footage, and you can purchase a 340MB PC Card that holds an additional 26 minutes for $599. The camera shoots 352-by-240-pixel MPEG1 movies at a full 30 frames per second. Although the movies are NTSC-compatible—you can play them out to your television and even record the footage to VHS if you like—each frame is a separate snapshot. The digitized soundtrack is monaural.

You can also shoot 704-by-480-pixel still images. The bundled 260MB card can hold a whopping 3,000 stills—100 times as many as typical digital still cameras—and the optional 340MB card can hold up to 3,900 stills. It's unlikely you'll use the MPEG Cam strictly to shoot still images, but there's plenty of room on the card to rattle off a few snapshots along with your movies.

The MPEG Cam relies exclusively on an LCD screen for framing shots—it doesn't have an optical viewfinder. But unlike other digital-camera vendors, Hitachi bundles a fold-up hood for the LCD, so you can preview your shots comfortably under the harshest light. Hitachi also throws in a remote control, a swivel stand, and two rechargeable batteries—each of which weathers several days of shooting.

### The MPEG Cam and the Mac

Hitachi obviously has PC users in mind as the primary market for the MPEG Cam. It comes with an ISA interface card and a wide assortment of Windows software that Mac folks can't use, and the camera started shipping several months before Hitachi unveiled its Macintosh SCSI Interface Kit (which costs an additional $299.95). The kit includes QuickTime 2.5, QuickTime MPEG Extension 1.0.1, and Version 2.1.5 of the Thread Manager, all minimum requirements for playing MPEG Cam movies. If you own a PowerBook with a Type III PC Card slot, you don't need the SCSI Interface Kit but you'll have to download the new MPEG Extension.

As if it's not enough that you have to pay more for them, the Mac hardware and software are a pain to use. I was able to install the ISA card in about ten minutes. By comparison, the Mac version makes you set pins to change the SCSI address, and it must be at the end of the SCSI chain. The Mac transfer utility is clunkier than the similar utility for Windows, and although Hitachi supplies an MPEG decompressor that retains the entire 352-pixel movie width for PCs, Apple's MPEG Extension compresses the frame horizontally to 320 pixels (see "Not a Toy").

### Macworld's Buying Advice

The MPEG Cam's still images compare well to those of digital cameras in the $500-to-$1,000 range, and—given that the MPEG Cam holds 100 times as many pictures—multimedia developers with large budgets should have little problem justifying spending close to $2,700. I found the focus on the MPEG videos soft compared to that of their still counterparts and some people may balk at the relatively small frame size and 20-minute capacity, but all are symptoms of the state of MPEG technology, not a Hitachi design flaw. If you have any qualms about investing in this new technology, wait to see if something better comes along. Or wait for Hitachi to come up with a more acceptable Mac bundle.—DEKE MCCLELLAND

**Not a Toy** On a Mac, the QuickTime MPEG Extension scales an MP-EG1A movie to 320 by 240 pixels (**A**). Under Windows, the bundled decoder retains the full 352-pixel width but displays a dithered picture (**B**). Regardless of the platform, a still image measures 704 by 480 pixels (**C**).

**RATING:** ★★★/6.4 **PROS:** Stores MPEG movies directly to removable hard disk; holds 20 minutes of video or 3,000 still images; includes LCD hood and rechargeable batteries. **CONS:** Mac connection kit costs extra and compares poorly to PC offering. **COMPANY:** Hitachi Home Electronics (770/279-5600, www.mpegcam.net). **LIST PRICE:** $2,399.95; SCSI Interface Kit, $299.95.

# What You Don't Know CAN Hurt You!

## Order The Training You Need Now

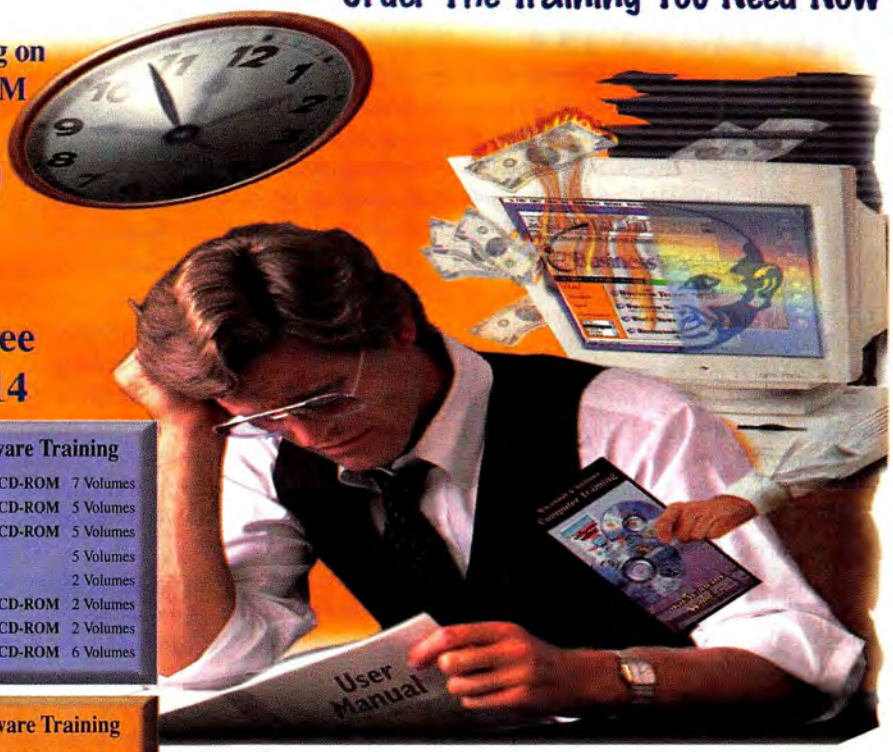
MONEY BACK 30 DAY GUARANTEE

Solution Professionals NETWORK

Computer Training on Video & CD-ROM

**$49** per volume

**Call Toll Free 800.527.1914**




### Business & Presentation Software Training

| | | | |
|---|---|---|---|
| ClarisWorks 4.0 | ☐ Video | ☐ CD-ROM | 7 Volumes |
| Excel 5.0 | ☐ Video | ☐ CD-ROM | 5 Volumes |
| FileMaker Pro 3.0 | ☐ Video | ☐ CD-ROM | 5 Volumes |
| Microsoft Works 4.0 | ☐ Video | | 5 Volumes |
| Persuasion 4.0 | ☐ Video | | 2 Volumes |
| PowerPoint 4.0 | ☐ Video | ☐ CD-ROM | 2 Volumes |
| Quicken 7.0 | ☐ Video | ☐ CD-ROM | 2 Volumes |
| Word 6.0 | ☐ Video | ☐ CD-ROM | 6 Volumes |

CSA Creative Solutions Alliance

### Graphics & Web Design Software Training

| | | | |
|---|---|---|---|
| FreeHand 7.0 | ☐ Video | ☐ CD-ROM | 6 Volumes |
| FreeHand 5.5 | ☐ Video | | 6 Volumes |
| Illustrator 7.0 | ☐ Video | ☐ CD-ROM | 6 Volumes |
| Illustrator 6.0 | ☐ Video | | 6 Volumes |
| PageMill 2.0 | ☐ Video | ☐ CD-ROM | 2 Volumes |
| Photoshop 4.0 | ☐ Video | ☐ CD-ROM | 10 Volumes |
| Photoshop 3.0 | ☐ Video | | 10 Volumes |

Adobe ADOBE AUTHORIZED LEARNING PROVIDER www.adobe.com

### Multimedia Software Training

| | | | |
|---|---|---|---|
| After Effects 3.1 | ☐ Video | ☐ CD-ROM | 4 Volumes |
| Director 6.0 | ☐ Video | ☐ CD-ROM | 5 Volumes |
| Director 5.0 | ☐ Video | | 5 Volumes |
| Premiere 4.2 | ☐ Video | | 3 Volumes |

### Desktop Publishing Software Training

| | | | |
|---|---|---|---|
| Design & Layout | ☐ Video | | 1 Volume |
| Desktop To Prepress | ☐ Video | | 2 Volumes |
| PageMaker 6.5 | ☐ Video | ☐ CD-ROM | 6 Volumes |
| PageMaker 6.0 | ☐ Video | | 7 Volumes |
| QuarkXPress 3.3 | ☐ Video | | 4 Volumes |

Mac OS

### Specialty Software Training

| | | | |
|---|---|---|---|
| HyperStudio 3.1 | ☐ Video | | 2 Volumes |
| Mac OS 8 | ☐ Video | | 4 Volumes |
| Mac OS 7.5 | ☐ Video | ☐ CD-ROM | 4 Volumes |
| MiniCad 6.0 | ☐ Video | | 2 Volumes |
| Networking | ☐ Video | | 1 Volume |
| Norton Utilities | ☐ Video | | 1 Volume |
| Troubleshooting | ☐ Video | | 3 Volumes |

Please call for a free catalog of our complete line of Video & CD-ROM training products

*I recently purchased seven videos from MacAcademy. In a matter of just a few days, I was catapulted from an idiot to a genius. What a truly outstanding service it is you people provide. Thank you.*

—John W. Wilbanks
Little Rock, Arkansas

## ORDER FORM

Please give us your daytime phone number in case we need to contact you concerning your order.

Phone ( )_____ Fax ( )_____

**SHIP TO**

Name
Company
Address
City St Zip

**BILL TO**
If different from Ship To address

Name
Company
Address
City St Zip

**PAYMENT**

❑ Check (payable to MacAcademy) ❑ Purchase Order (must be attached)
❑ VISA/MASTERCARD/AMERICAN EXPRESS/DISCOVER

Card # Exp. Date

Signature

| Product | Version | Volume | Video | CD-ROM | Unit Cost | Total |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Please add $5 per order plus $1 per volume for shipping & handling. Outside the continental U.S. please call for shipping costs.

Florida residents please add sales tax for the county in which you reside (either 6%, 6.5%, or 7%)

| | |
|---|---|
| Product Total | |
| Shipping & Handling | |
| Subtotal | |
| Florida Resident Tax | |
| Total | |

**Please Call, Mail, or Fax Your Order to:**

MacAcademy Dept SP-1146
100 East Granada Blvd Ormond Beach FL 32176-1712
Phone 904.677.1918 Fax 904.677.6717
MacAcademy UK Phone 01953.457.600 MacAcademy Australia Phone 03.9705.1066

MacAcademy®
*Committed To Excellence*

http://www.macacademy.com

©1997 FMI

**Circle 106 on reader service card**

# Cubasis AV

## INEXPENSIVE AUDIO AND MIDI RECORDING

THE INTERSECTION OF DIGITAL audio and MIDI recording is one of the hot spots on the music scene. It's a best-of-both-worlds place where the software can record and play back not only audio, such as vocals and acoustic instruments, but also the MIDI note data that synthesizers send and receive. It's a hard neighborhood to get into, though: The top MIDI sequencer/audio-recording programs, Opcode's Vision and Studio Vision series and Mark of the Unicorn's Digital Performer, are complex beasts that range from $395 to $995.

In these surroundings, Steinberg's Cubasis AV 1.0 is a breath of almost-fresh air. This $149 program wraps all the essentials and even a few luxuries in an approachable interface—unfortunately, one marred by design annoyances.

### A Lean Music Machine

Cubasis AV runs on any PowerPC-equipped Mac with at least 24MB of RAM. I tested it on a 200MHz PowerBook 3400 with 32MB of RAM. Cubasis AV doesn't require a specialized digital-audio card, relying instead on the Power Mac's built-in sound circuitry.

Cubasis AV arrives on a CD-ROM that also contains 150MB of audio clips—short drum and instrument riffs from which you can assemble your own songs. Being able to build rhythm tracks from existing sounds is one of the great advantages of using an audio/MIDI hybrid: Rather than using a synthesizer's cheesy drum sounds, you can add authentic-sounding drum tracks played by real drummers. (For an overview of canned-audio options, see *Media*, August 1997.)

Unlike most sequencer packages, Cubasis AV was designed to be used with a synthesizer that adheres to the General MIDI standard, which, among other things, dictates that specific instruments be assigned specific patch numbers. (For example, a harpsichord is always patch number 7, regardless of manufacturer.) Cubasis AV's General MIDI support lets you choose instruments by selecting their names from a pop-up menu—no need to remember which patch number summons which instrument. You can use Cubasis AV with a non-General MIDI device, but you'll need to translate the patch names into your instruments' patch assignments.

### Making Music

Cubasis AV's nerve center is the Arrange window, where you can record and work with up to 8 audio tracks and 16 MIDI tracks (see "Graphic Arrangements"). The Arrange window works like its counterparts in other programs: You can drag blocks of audio or MIDI data forward or backward within a song's timeline, and a customizable snap-to grid ensures that parts begin on the beat.

**Graphic Arrangements** Cubasis AV's Arrange and Audio Mixer windows let you manipulate and mix tracks.

One of the beauties of MIDI is the freedom to correct flubs and tweak intonation. Cubasis AV has first-rate MIDI-editing features: A graphical editing window displays a MIDI track's data in piano-roll form, and you can change notes by dragging them or create new notes using a pencil or paintbrush tool. When you want extra precision or need to work with non-note data, such as patch changes, you can also edit MIDI tracks in a text-based event window. If you're feeling retro, you can work with track data in standard music notation. Cubasis AV can also print scores, although it isn't intended to be used as a notation program.

Cubasis AV offers two on-screen mixer windows whose sliders and controls mimic those of a conventional audio mixer. With the MIDI Mixer, you can assign specific General MIDI instruments to each track and adjust each track's volume and left/right panning. If your instrument uses the General MIDI GS or XG extension, you can also control its built-in reverb, chorus, and filter.

A separate Audio Mixer window lets you mix audio tracks; you can also apply real-time reverb and echo effects to your tracks. Cubasis AV's effects lack the sonic realism of high-end effects plug-ins or hardware, but they sound good—and their presence is a pleasant surprise in an entry-level program.

### Sour Notes

Cubasis AV was rock-solid in my tests, but the program's rough edges show a lack of attention to detail: The commonly used Import Audio command lacks a keyboard shortcut, and you can't drag and drop audio files from the Finder. The Transport window lacks a rewind-to-beginning button (if you experiment, you'll find that double-clicking on the Stop button has the same effect). Commands unavailable at a given time aren't dimmed, as they should be. And the program's error messages are an adventure in free-form grammar and punctuation.

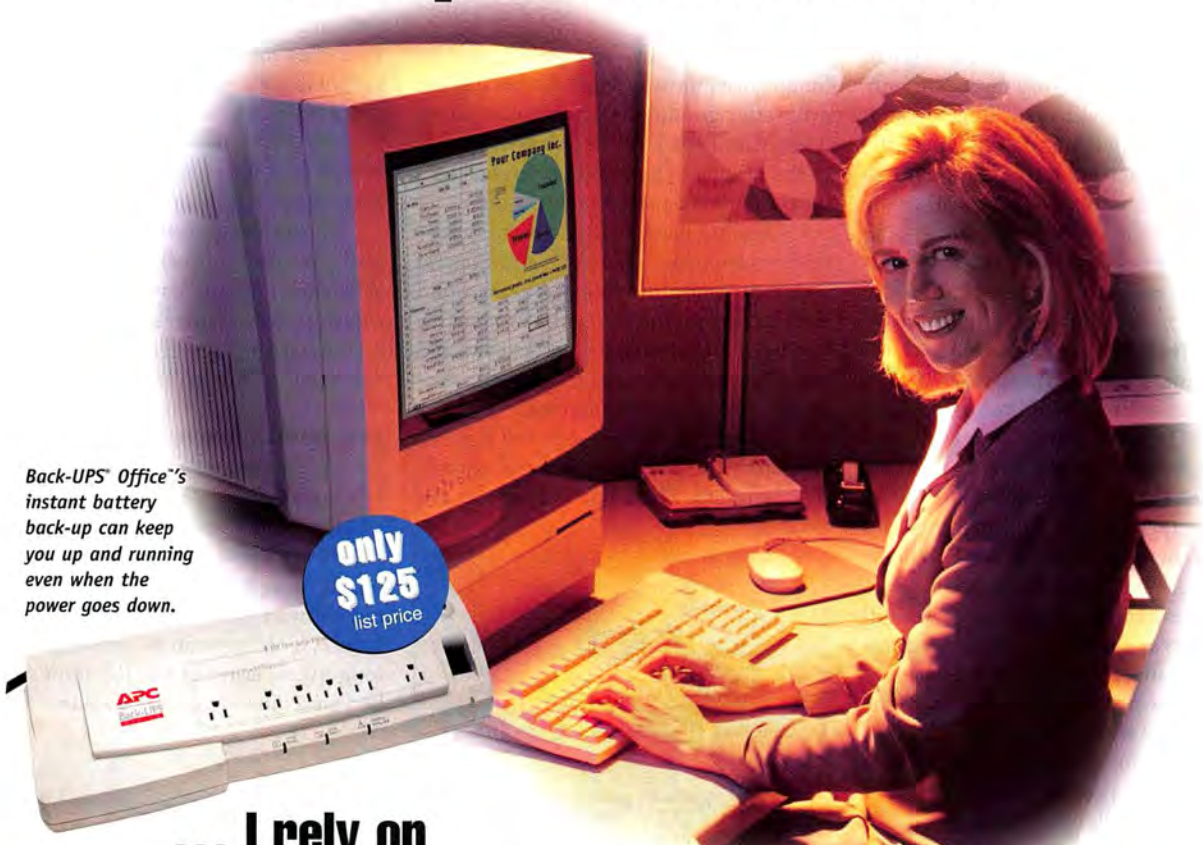
Cubasis AV's printed manual is an awkwardly written 76-page booklet. A detailed manual is included in Adobe Acrobat form on the CD-ROM (which also contains some QuickTime-based tutorials), but it's no model of clarity, either.

### Macworld's Buying Advice

Cubasis AV's shortcomings don't completely dampen my enthusiasm for this program. In a world of kitchen-sink sequencers that contain features many people will never use, Cubasis AV is a refreshing change. If you're interested in testing the waters of audio/MIDI integration, particularly if you use General MIDI instruments, it's well worth considering.—JIM HEID

**RATING:** ★★★/5.9 **PROS:** Inexpensive; easy to use; solid MIDI-editing features. **CONS:** Poor documentation; numerous interface flaws. **COMPANY:** Steinberg (818/993-4161, www.steinberg.net). **LIST PRICE:** $149.

# "My business can't stop when the power does...




*Back-UPS® Office™'s instant battery back-up can keep you up and running even when the power goes down.*

## ... I rely on Back-UPS® Office™ from APC."

Protect ME! APC

"I've got Back-UPS® Office™ from American Power Conversion. Back-UPS Office combines world class surge protection, a $25,000 equipment protection guarantee* and instant, uninterruptible battery back-up power.

So when the power goes out, and it will.... I have plenty of time to save what I am working on and shut down safely.

Plus, I am protected from surge damage, keyboard lock-ups, data loss and power problems transmitted to my workstation over data and power lines."

*Look for APC power protection products - starting at $24.95*

So, if you just bought your first computer, or run a company that needs hundreds, you can depend on the reliability and peace of mind that comes with APC products. Why? It's simple. APC protects more computers for more companies in more countries than anyone in the world.

Now, that's a reason to smile.

**APC's Back-UPS Office is available at:**

MacMall 1-800-328-2790

MacWAREHOUSE 1-800-255-6227

**FREE Consumer Catalog**

☐ **YES!** I'd like to receive my FREE catalog.

☐ **NO,** I'm not interested at this time but please add me to your quarterly newsletter mailing list.

Name: _____

Title: _____

Company: _____

Address: _____

City/Town: _____

State: _____ Zip: _____ Country _____

Phone: _____ Fax: _____

# of Macs on site? _____

Brand of UPS used? _____ # _____

Brand of Servers used? _____ # _____

APC

**888-289-APCC x8250**

**Fax: (401) 788-2797**

**www.apcc.com**

**D7-B0**

©1997 APC. All Trademarks are the property of their owners. * See policy for details. BF22EF • (800)347-FAXX PowerFax • E-mail: apcinfo@apcc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA

*APC has won more awards for reliability than all other UPS vendors combined.*

Circle 72 on reader service card

# Genealogy Software

USE YOUR MAC TO FIND YOUR ROOTS

THE MAC IS THE PERFECT TOOL for family-history nuts. Not only does it make recording, storing, and organizing family data efficient and enjoyable but the Internet also lets genealogists worldwide effortlessly swap information. Three software companies have revved their genealogy programs—and one is sensational.

### Family Tree Maker Deluxe

Brøderbund's Family Tree Maker (FTM) is the best-selling Windows genealogy program: Its crystal-clear design features a simple, large-font card for each husband and wife. Filing-folder tabs take you to the card for each person's parents and children, making it simple to climb up or down the family tree. Since the program recognizes names and places, its autofill feature saves typing—a necessity for a hobby that involves repetitious data entry.

Nonetheless, FTM is a flop as a Mac program. Its installer deposits an unforgivable 11 extensions into your System folder, and the program needs 10MB of RAM. For example, click on the main dialog box's close box, and the whole program unceremoniously quits. The manual highlights Windows screen shots. And a critical feature is surprisingly missing: The program doesn't accommodate photos (let alone sound or movies).

Indeed, FTM's greatest attraction isn't the program itself; it's the promise of instant research gratification. FTM links directly to a huge private Web site and can access any of 60 optional CDs filled with genealogical data. (They average $30 apiece; this version includes three.)

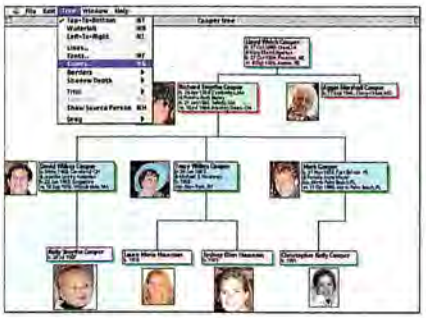
The CDs include little more than public-domain government records; worse, the actual program relentlessly pressures you to buy the CDs. For example, the built-in FamilyFinder command lets you search 115 million names. Great, except that it doesn't produce any useful data on its "hits"—it simply identifies the CD you must buy to *get* information.

### Ultimate Family Tree Deluxe

Family Tree Maker isn't the clunkiest genealogical PC port on earth; that honor goes to Palladium Interactive's Ultimate Family Tree Deluxe—an equally resource-hungry, Mac-hostile database that doesn't even offer good design as a consolation. This Microsoft FoxPro document takes over a minute to load and requires 35 seconds to import a ten-name text file.

Click in a blank field and try to type—nothing happens. There's no autofill, and you must put annoying slashes around each last name. You're required to burrow through three nested dialog boxes to add a spouse or attach a photo. And the program's text labels are hilariously clumsy.

To be sure, deep inside the FoxPro database beats the heart of a real genealogy program. Here you'll find you can add photos and generate tree charts. There's even direct integration with the Palladium Web site, and the Netscape Navigator-based, narrated slide show offers valuable research hints. But genealogy software should save time, not waste it.



**Family Reunion 5** Reunion's SuperChart program lets you tweak family tree charts in every way.

### Reunion 5.02

If FTM and UFTD are modeled for the PC, Reunion 5.02 is blue-blood Macintosh. The results are spectacular. Talk about optimized: This fast, elegant program comes on one floppy disk. It accommodates any family setup: multiple marriages, same-sex marriages, adoptions, even unknown gender. The program's attractive "family cards" offer autofill, autocapitalization, a "ditto" keystroke that duplicates your last entry, and so on. You can drag and drop; attach pictures, sounds, and movies; and change the font, size, and even color of nearly any text.

The separate but self-launching chart-making program instantly churns out any kind of genealogical chart. Configure charts in any orientation, complete with photos, with the option of dragging branches of your tree around before printing. (The Timeline chart, showing your clan members' life spans against a grid of history, is especially valuable.) The program doesn't offer automatic integration with Web data, but it can turn your family tree into gorgeous, hyperlinked Web pages, ready for posting online.

Most appealing is the way Reunion puts your data to work. It prints birthday calendars, marking days to remember or showing each relative's age. It even generates startling averages (such as "age at marriage" or life span) for your clan.

### Macworld's Buying Advice

Family Tree Maker Deluxe Edition II and Ultimate Family Tree Deluxe may have PC fans, but those people never had to use these clumsy adaptations. Reunion 5, on the other hand, isn't just great genealogy software; it's an outstanding Mac program. Genealogy can be a rewarding lifelong quest; fast, flexible Reunion should be your companion.—DAVID POGUE

#### Family Tree Maker Deluxe Edition II 3.02

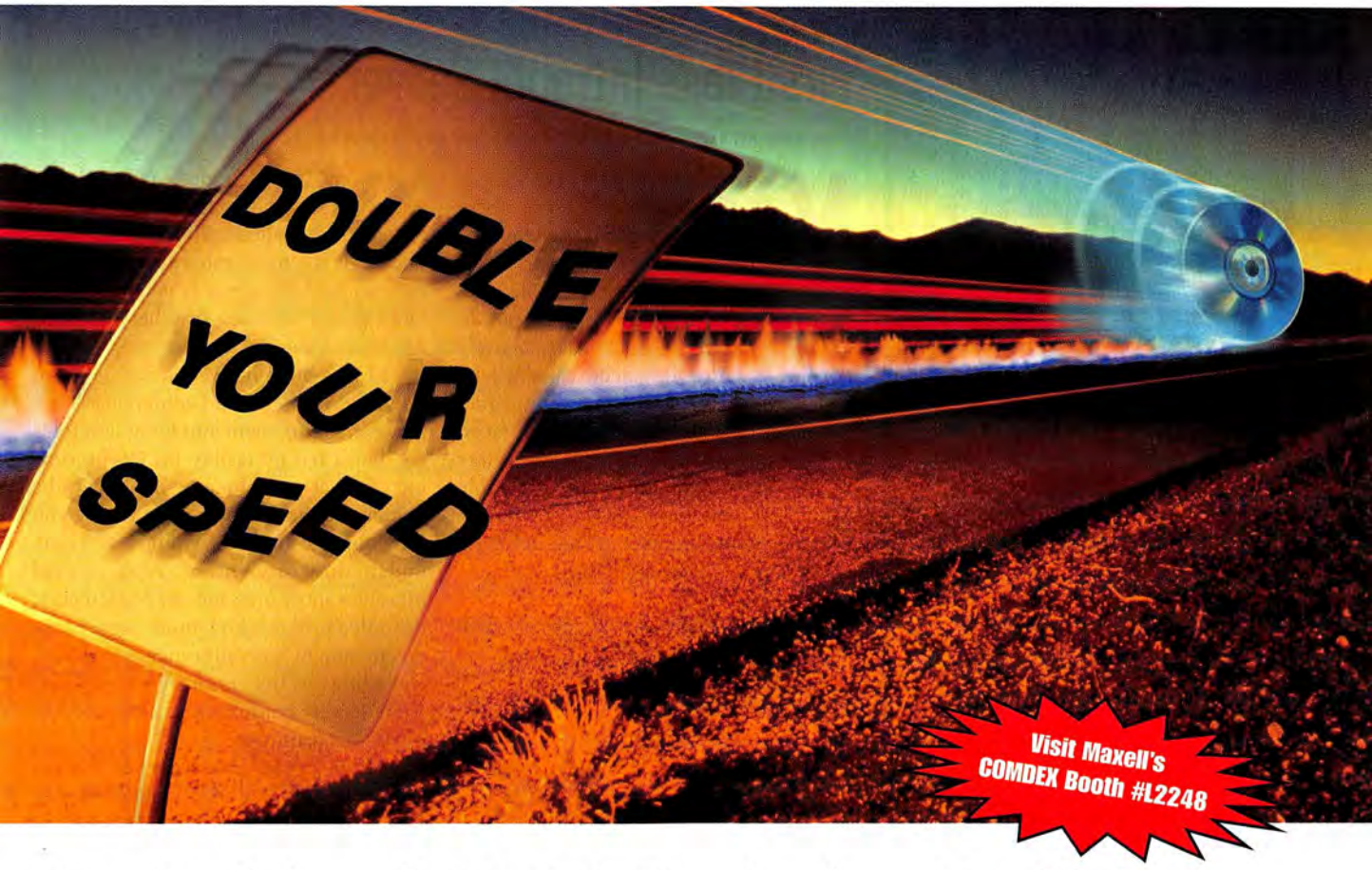
**RATING:** ★★/4.8 **PROS:** Well-stocked Web site may help with research. **CONS:** Appalling RAM, hard-disk, and extension demands; slow; too much sales pressure. **COMPANY:** Brøderbund (415/382-4700, www.familytreemaker.com). **COMPANY'S ESTIMATED PRICE:** $89.99.

#### Reunion 5.02

**RATING:** ★★★★/8.7 **PROS:** Beautifully designed; infinitely flexible; fast and stable. **CONS:** Chart maker is technically a separate program. **COMPANY:** Leister Productions (717/697-1378, www.leisterpro.com). **COMPANY'S ESTIMATED PRICE:** $99.95.

#### Ultimate Family Tree Deluxe

**RATING:** ★★/3.0 **PROS:** Integrates with Web site; useful interactive research-tips guide. **CONS:** Unusably slow; confusing, inconsistent interface; nested dialog boxes required for most functions. **COMPANY:** Palladium Interactive (812/829-4405, www.palladiumnet.com). **COMPANY'S ESTIMATED PRICE:** $59.95.




# Using breakthrough LIMDOW® technology, Maxell brings you super-fast direct OverWrite Magneto Optical Disks.

LIMDOW (Light Intensity Modulation Direct OverWrite) technology boosts writing speeds by up to 100% over current Magneto Optical (MO) disks. That's because it requires only a single pass to rewrite new data to a disk—eliminating the need for erasing.

Now you can transfer data at an impressive 4.0 MB/second, and still have the security and convenience of a removable media with random access. Maxell's line of direct OverWrite MO disks are ideal for data storage, document imaging, file management, and multimedia applications.

On top of doubling your speed, Maxell's LIMDOW disks offer you the highest capacities available—640 MB on a 3.5-inch disk and 2.6 GB on a 5.25-inch disk. Plus, they'll be there for you down the road with durability rated at 1,000,000 rewrite cycles and an archival life of over 30 years! Look for LIMDOW capable drives from Nikon, Fujitsu, Hitachi, Pinnacle Micro, Most, Mitsubishi Chemical, Konica, and others.

**Check out Maxell's entire line of data storage solutions.** Whether you use floppies, cartridges, cassettes, CDs, optical disks or laser servo disks, you can count on Maxell's quality. Plus, Maxell products are backed by a lifetime warranty.

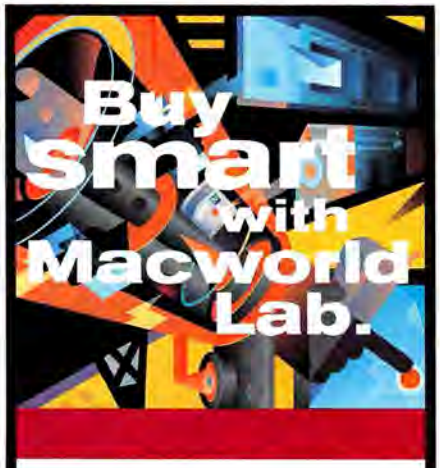
Put the "pedal to the metal" with the blazing rewrite speeds of Maxell's direct OverWrite MO disks. Got questions? Call our tech support center, or get our FREE product brochure by calling 1-888-2-Maxell (262-9355). Check out our Website at www.maxell.com

maxell
Commercial Products Group

***Technology for the next generation.***

Maxell Corp. of America, 22-08 Route 208, Fair Lawn, New Jersey 07410
Maxell Canada, 111 Staffern Drive, Concord, Ontario, Canada L4K 2R2 • (905) 669-8107

**Circle 120 on reader service card**




Macworld
LAB TEST

To buy smart when you're choosing Mac OS hardware or software, you've got to put it to the test. Macworld Lab is on the job, testing, scrutinizing, and evaluating the performance and quality of the products you need. With real-world testing, we measure performance by real-life standards. Using the system and applications you'd use to complete the tasks you're faced with every day, our experts come up with answers that matter to you.

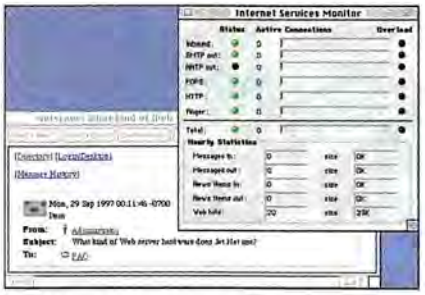
You can rely on Macworld Lab Test results — We test the products the way you use them.

Macworld
THE ESSENTIAL MACINTOSH® RESOURCE

# FirstClass Intranet Server

FINE FOR MESSAGING, BUT INTRANET CAPABILITIES ARE SECOND-RATE

YOU'VE HEARD THE SIREN CALL of the intranet: "Dump those expensive proprietary client programs and serve up your enterprise data using cheap, plentiful Web browsers. On the Web you can do anything. Come closer!" Alas, many a corporate sailor has been capsized by expensive server software, complicated programming, and quirky user interfaces. SoftArc promises to smooth the waters with a special version of its venerable FirstClass messaging system, newly outfitted for intranet duty. But although First Class Intranet Server (FCIS) 1.0 retains the proprietary client functions and powerful features of the original FirstClass package (see *Reviews*, March 1997), it falls short of delivering on its promise to provide a complete intranet platform.




**WebTalk** FirstClass Intranet Server's built-in HTTP server software lets you publish traditional FirstClass conferences on the Web for public viewing.

FCIS's client sports a few enhancements, such as full MIME compatibility and threaded conferences, but the big news is the package's built-in SMTP, POP3, NNTP, and HTTP (Web) server features, which let you access FirstClass messages over the Internet using a standard Internet mail client or a Web browser. The servers run on either Macs or Windows-based machines and provide access to the FirstClass user directory via Internet Finger clients.

The FCIS SMTP and POP3 servers deliver e-mail to the Internet and to POP3 mail clients, respectively. The SMTP server supports Internet mail relaying, but the POP3 server has no advantages over any other POP3 server besides its integration with FCIS.

The NNTP server collects Usenet news from an upstream news feed and delivers it to users. Curiously, it provides no access to FirstClass conferences for NNTP clients (news readers). Minimal documentation for the news gateway makes setup difficult, and the server is unable to filter news, gather statistics, or otherwise manage Usenet message content.

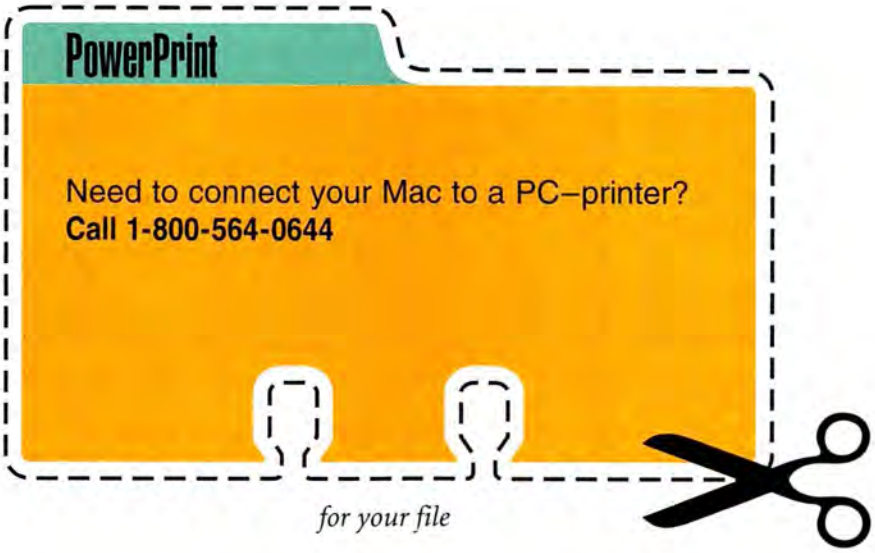
FCIS's built-in Web server lets you publish documents and conferences simply by dragging them into FirstClass folders, but it has no facility for CGI scripting or other programming. Although the manual implies otherwise, in reality you can only *view* FirstClass content; you can't update directory entries, reply to mail messages, post messages to conferences, or upload files. The most significant enhancement to conferences—message threading—is mysteriously absent from Web-served conferences, as are other FirstClass features.

Although the Web server falls short as a true intranet platform, some users may find it useful for publishing content the general public can read. Unfortunately, the Web server's performance limits that public to a small audience indeed. Tests in which only ten simultaneous users access the server show that it bogs down easily, with response times of tens of seconds when the users are browsing conferences. Even when serving static HTML, the server drags with only two or three simultaneous users.

### Macworld's Buying Advice

As a powerful enterprisewide messaging environment, FirstClass has no peer in the Macintosh world. Existing users will find the new Internet server features useful, and the POP3 and SMTP compatibility makes the product attractive for handling Internet e-mail. Just don't be fooled into thinking FirstClass Intranet Server has anything to do with real intranet information serving.—MEL BECKMAN

**RATING:** ★★★/6.5 **PROS:** Integrated POP3, SMTP, NNTP, and HTTP servers; MIME compatibility; cross-platform support. **CONS:** Can't update content via Web interface; slow Web-server software; weak documentation. **COMPANY:** SoftArc (905/415-7000, www.softarc.com). **LIST PRICE:** 10 users, $999; 50 users, $2,723.




# Because one day you'll need to print to a PC–printer and you won't remember where the heck you saw this ad

Sooner or later, you'll need to connect your Mac to a PC–printer. Afterall, your clients use them. Your favorite hotels use them. Even your co-workers use them. The good news is that it's easy to connect to a PC–printer. You just need PowerPrint.

For only $99, PowerPrint has the software and smart cable that makes it all possible. You'll be able to print from your Mac to over a thousand different printers from companies like Canon, Epson, HP, Okidata, Panasonic and more.

So get PowerPrint if you think you'll be using a PC–printer anytime soon. Or just keep us on file until you do need us. Because you will need us.

Call us: 800-564-0644
Or visit: www.infowave.net

MacUser 100 MacWEEK

**PowerPrint**

4664 Lougheed Highway, Suite 188, Burnaby, BC, Canada V5C 6B7
PHONE: 604.473.3600 FAX: 604.473.3699 E-MAIL: info@infowave.net
© 1997 Infowave Wireless Messaging Inc. Infowave, the Infowave logo, PowerPrint, and the PowerPrint logo are trademarks of Infowave Wireless Messaging Inc. which may be registered in certain jurisdictions. All other trademarks are property of their respective owners.

INFOWAVE

Circle 32 on reader service card

# Apple Network Administrator Toolkit 2.0

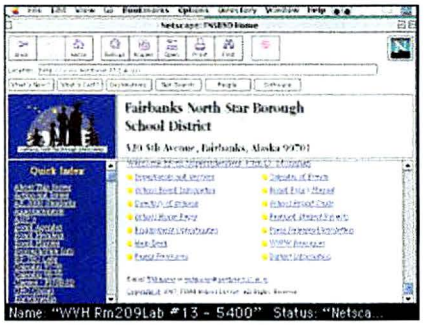
SUPERB EDUCATOR-ORIENTED SUITE

YOU DON'T NEED TO BE A WIREhead to appreciate the Apple Network Administrator Toolkit. In fact, ANAT has the most to offer to teachers, school administrators, and others who manage computer labs alongside their other jobs, by simplifying complex tasks, automating repetitive procedures, and adding powerful new features to the Mac OS's built-in networking software.

ANAT 2.0's three programs can be used together or separately. Network Assistant 3.0 allows remote management of Macs, AtEase for Workgroups 5.0 lets you create customized Mac client/server environments, and User and Group Manager 1.1 simplifies the process of managing groups on multiple machines.

Network Assistant lets administrators perform tasks on a group of Macs, from a single administration system. Because Network Assistant 3.0 supports TCP/IP, client and administration machines don't have to be on the same AppleTalk network; they can interact via the Internet. Some tasks (such as changing IP addresses or installing software) must be done one machine at a time, while others (such as copying files and rebuilding desktops) can be performed on multiple machines.

Network Assistant's latest version expands its tracking capabilities, but it isn't just for monitoring and controlling technical information. Teachers will appreciate the screen-sharing feature, which allows them to perform tasks such as darkening all the monitors in a student lab or making the monitors' screens mirror another system's. Administrators can also observe any number of screens on the network, with or without the knowledge of the person using the client machine. A new option allows eyeballs to be displayed on a client monitor when it's being observed (see "Eyes Only"). The new version allows screen sharing and observing over LocalTalk networks and 28.8-Kbps modems (in addition to Ethernet and faster dial-up links), but screens are slow to redraw via low-bandwidth connections.




**Eyes Only** Tiny eyeballs in the menu bar alert students that their instructor is watching their screens.

AtEase for Workgroups lets administrators customize the user interface and add security features on client machines. It works well with servers running AppleShare File Server version 4.2.1 or AppleShare IP 5.0. The new version proves dramatically easier to install and configure than previous versions.

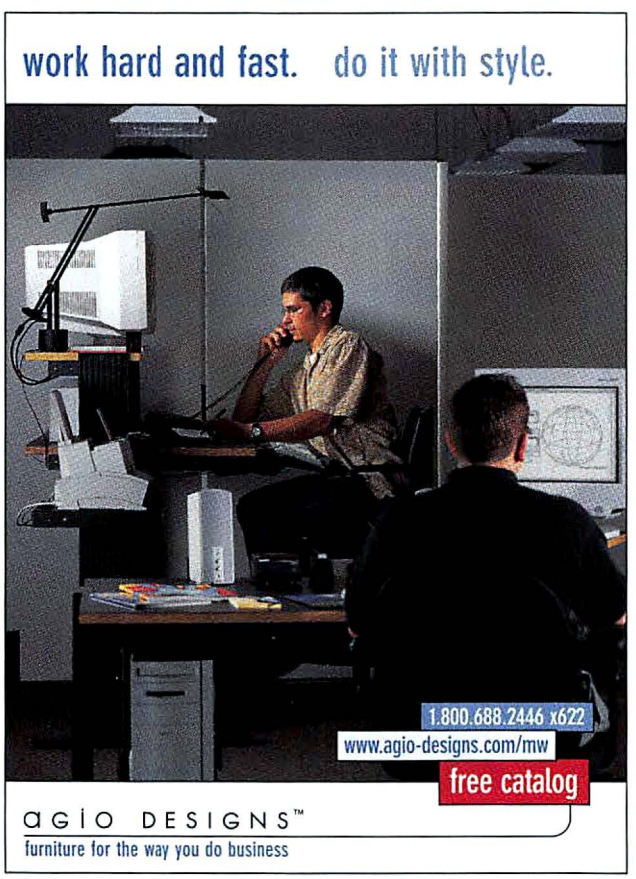
When students log in, they see environments chosen and customized by the administrator. The new version still doesn't provide client documentation for student use. AtEase 5.0 offers new options for automatically updating preferences within Internet applications (such as Netscape Navigator bookmarks) each time a user logs in to the network. Version 5 also works well with AppleShare IP 5.0 Web Server and Apple's eMate Server.

User and Group Manager 1.1 handles user and group creation for both AtEase and AppleShare server administration. It greatly simplifies group-management procedures across multiple servers.

### Macworld's Buying Advice

Apple Network Administrator Toolkit 2.0 takes much of the repetition—and the risk—out of managing large networks. The new version lets you administer networks thousands of miles away via the Internet without a hitch. This suite is a must-have for most anyone who administers a Macintosh network in an educational environment.—GEORGE BEEKMAN & TODD SHECHTER

**RATING:** ★★★★/8.4 **PROS:** Straightforward installation; useful features; works on LANs and across the Internet. **CONS:** Lacks client documentation. **COMPANY:** Apple Computer (408/996-1010, www.apple.com). **LIST PRICE:** 10-client version, $400; upgrade, $200.



# Some Tools Change the Way We Work. Forever.

## THE WHEEL

Tired of going around in circles shooting, digitizing, editing, and compressing digital video? Maybe you haven't had the right tool for the job. Let Hitachi's new MP-EG1A MPEG camera put you in the fast lane. It's the only digital video camera in the world that creates MPEG files—and in real time, no less! Now you can transfer MPEG or JPEG files by directly connecting to the PC-type III slot in your PowerBook or using the optional SCSI Adapter (MPADS1A). And nothing's simpler than dropping the MPEG video clip into your QuickTime™ 3.0 Mac software. That's a real productivity tool.

## THE MPEGCAM

You'll get a lot more mileage out of the MP-EG1A, too. Record 20 minutes of MPEG-1 digital video. Snap 3,000 JPEG stills—just a click away from pasting into Web pages and layouts. Or grab 4 hours of audio. With MPEG, JPEG, and audio in a compact one-pound package, the MP-EG1A is sure to become the heart of your production tool chest. And with photo-quality auto-feed printing (only 50 seconds per page), the Hitachi VY60DA digital photo printer makes the perfect companion tool. So why spin your wheels when you can tool around in the Hitachi MP-EG1A today!

Capacity specifications are approximate.

# HITACHI

A TOTALLY NEW VISION

**www.mpegcam.net**

**1-800-HITACHI FAX: 1-770-279-5699**

© Copyright 1997 Hitachi, Ltd. All other brand and product names are property of their respective owners.

SECOND LOOK

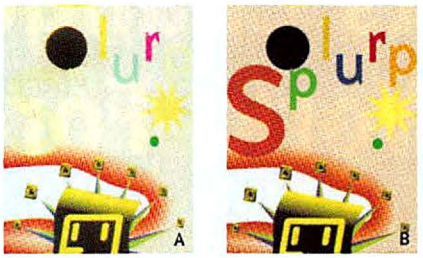
# PrimeraPro Elite

PRINTER STILL FAILS TO MAKE THE GRADE

TWO MONTHS AGO, FARGO'S dye-sub/thermal-wax printer earned a tepid two-star rating. Due to testing irregularities, we agreed to give the PrimeraPro Elite another look. Unfortunately, we encountered so many additional problems in our retesting that we still can't recommend this product.

The original review complained about the printer's streaky output when imaging Macworld Lab's Adobe Illustrator test image (see *Reviews*, November 1997). Fargo representatives maintained that we had mistakenly used CMY ribbon with CMYK paper, and our retesting indicates that this was indeed the case, although minor streaking still occurred.

Our experience highlights a serious issue with the Elite's consumables: neither the ribbons nor the paper sports any means of distinguishing CMY from CMYK; our experienced lab analysts couldn't tell the difference. But with the correct supplies installed, the printer still displayed other serious problems—even after Fargo representatives visited Macworld Lab to ensure that our testing was sound.




**Knowing Right from Wrong** The PrimeraPro Elite's output (**A**) shows its inability to properly render the type in our complex FreeHand file (**B**).

Prints of our Adobe Photoshop test document were unacceptably oversaturated; primary colors in particular suffered from unpleasant, garish hues. Fargo maintains that the oversaturation is due to the fact that our test image is a CMYK file, and in fact, RGB Photo CD images we printed *were* noticeably superior. At this price, though, you shouldn't have to compromise.

In printing our Macromedia FreeHand test document, colored type appeared as white letters reversed out of striped colored boxes. Reinstalling the driver solved the type-reversing problem, but the letters' colors still failed to print properly (see "Knowing Right from Wrong").

Circular objects in the same file were rendered as many-sided polygons, and numerous graphic elements had noticeable white halos. Fargo representatives maintain that these issues—except for the type—are a problem with QuickDraw, even though spot-tests on competing ink-jet printers displayed none of the same quirks.

Fargo plans to introduce a $465 PostScript Level 2 software option by the time you read this. Although we have not tested this product, it stands to reason that it could solve many—if not all—of the problems we experienced with our FreeHand file.

**Macworld's Buying Advice** Unfortunately, the PrimeraPro Elite's print quality still falls below our basic expectations for a dye-sub printer. Quality issues aside, though, there are plenty of other reasons to look elsewhere. The consumables are confusing, and the Elite's price point is way out of line considering its level of performance.—SUZANNE COURTEAU

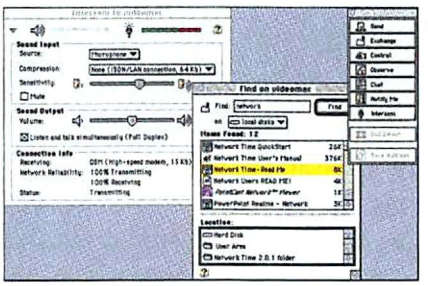
**RATING:** ★★/4.5 **PROS:** Full-bleed letter-size prints; inexpensive for dye-sub/thermal-wax combo; knowledgeable technical-support staff. **CONS:** Unacceptable dye-sub prints. **COMPANY:** Fargo Electronics (612/941-9470, www.fargo.com). **LIST PRICE:** $2,195.

# Timbuktu Pro 4.0

BETTER THAN EVER FOR REMOTE ACCESS AND CONTROL

FARALLON'S TIMBUKTU HAS always been the next-best thing to being there, letting you reach out and touch a distant Mac over a LAN, the Internet, or a dial-up connection. It lets you share screens, exchange files and messages, and conduct text chats with any number of remote users simultaneously. And that was just the *old* version; the new version adds a multitude of nifty features and refinements.

Timbuktu Pro 4.0 is Open Transport–native, offering much faster file transfers and the ability to recover a dropped transfer where it left off—a real boon for modem users. The file-exchange function also features an array of new commands for navigating directly to folders and renaming and finding files. You can create a Drop Sender icon for a specific destination machine and then send files to that destination simply by dragging them onto the icon. A sophisticated new Intercom feature lets you talk to remote users via the Mac's built-in audio hardware, with voice compression for good performance even over slow modem connections. Timbuktu Pro 4.0 is also fully AppleScript- and UserLand Frontier–enabled and includes a slew of ready-made scripts for such chores as remote backup and folder synchronization.



**Walk and Talk** With Timbuktu Pro 4.0, you can walk through a remote system's files, using the Find File command, and you can use the Mac's built-in audio hardware to converse with remote users.

Timbuktu is a worthwhile tool for its file-transfer performance alone. On a 100BaseT network, Timbuktu moved data at a megabyte per second (about 50 percent faster than version 3.0); AppleShare IP took 3 seconds per megabyte to move the same files. Over a 128-Kbps ISDN connection, Timbuktu was five times as fast as AppleShare IP.

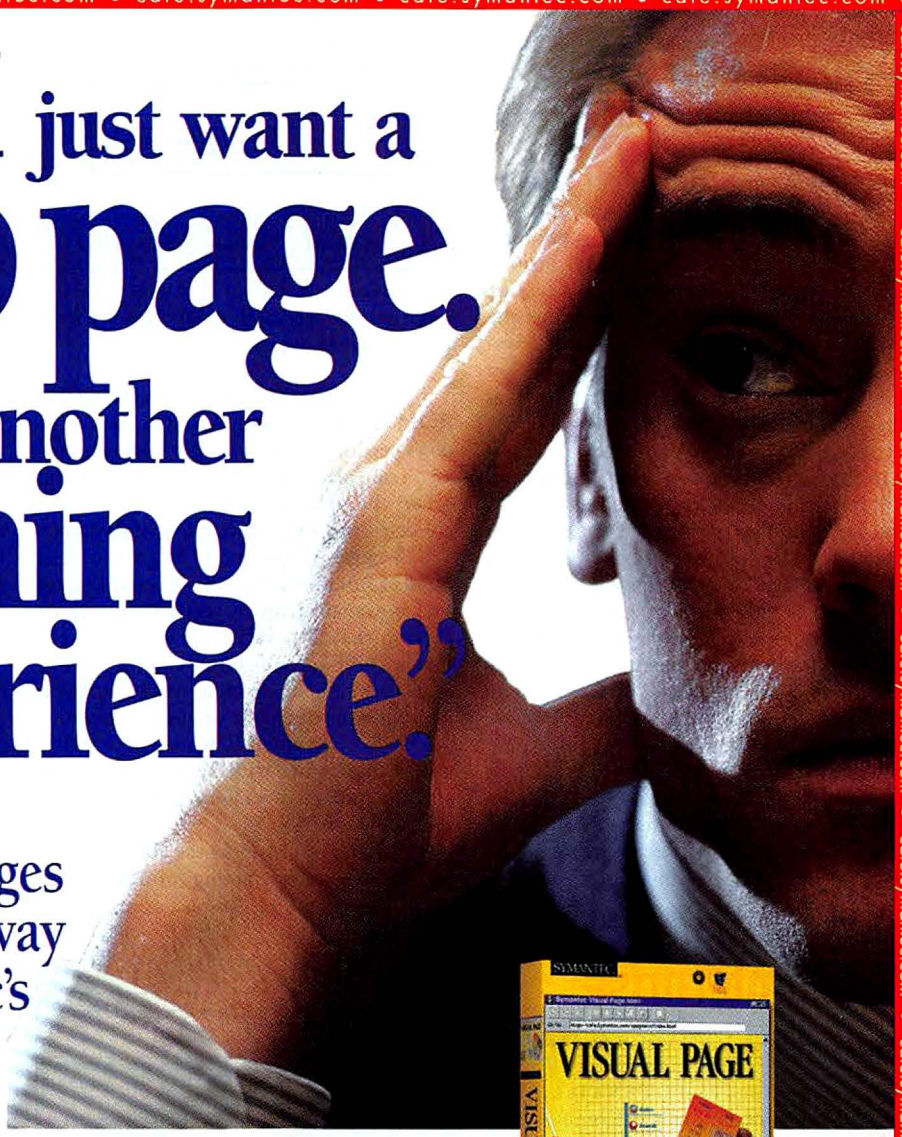
Timbuktu Pro 4.0 retains version 3.0's popular features (see *Reviews*, January 1997): pop-up messaging, remote-user–activity notification, drag-and-drop file transfers, and a Netscape plug-in for compatibility with Netopia Virtual Office. The only negative in this release is Farallon's failure to fix the awkward user-interface problems, such as the nonintuitive placement of some menu items and the difficulty in saving settings. While you can write AppleScripts to get around these problems, most users don't want to become programmers just to fix a few interface glitches.

**Macworld's Buying Advice** With a raft of new features, Timbuktu Pro 4.0 is better than ever for remote access and control. Its blazing file-transfer speed makes it indispensable for exchanging large files, such as video streams. And because it's cross-platform for network and dial-in access, it's sure to be the darling of enterprises that support both Mac OS and Windows desktop machines.—MEL BECKMAN

**RATING:** ★★★★/8.5 **PROS:** Sophisticated access for any remote user; fast file transfers; can resume file transfers after failure; remote-searching and intercom features. **CONS:** User interface still awkward. **COMPANY:** Farallon Communications (510/814-5000, www.farallon.com). **LIST PRICE:** One user, $199; two users, $259; ten users, $899.

• cafe.symantec.com • cafe.symantec.com • cafe.symantec.com • cafe.symantec.com • cafe.symantec.com •

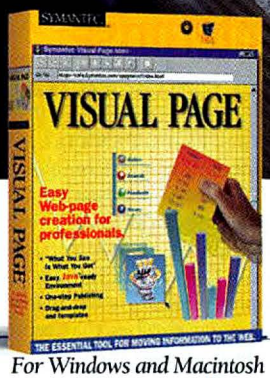
# "I just want a web page. Not another learning experience."



## Create web pages the fast, easy way with Symantec's Visual Page.™

All you need is a web page. Not an education in HTML programming. And that's what Visual Page is all about. Great-looking web pages, with all the bells and whistles–but *without* the learning curve.

Just drag and drop photos, multimedia, full-motion "applets," even content from other Web sites. And Visual Page handles text just like your word processor. In no time at all, you'll be putting together web pages *guaranteed* to impress!




"Symantec's Visual Page offers the best of all worlds. Whether you are a seasoned Webmaster or just starting out, you will like the easy-to-use and intuitive development environment...a strong product for a great price." *InfoWorld, 7/28/97*

*For Windows and Macintosh*

**Buy it today only $49!***

Visit any retailer listed below now and save $30 on Visual Page! Hurry–this offer ends soon!

**Download your free trial copy today**
**http://cafe.symantec.com**

**Computer City • Best Buy • Egghead • Fry's • Electronics Boutique • Micro Center**

SYMANTEC.™

Symantec and the Symantec logo are U.S. registered trademarks and Symantec Visual Café is a trademark of Symantec Corporation. Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems in the U.S. and other countries. Microsoft, Windows, the Windows logo and Windows NT are registered trademarks of Microsoft Corporation. Apple, Macintosh and Power Macintosh are registered trademarks of Apple Computer, Inc. All other brands and products are trademarks of their respective holder/s ©1997 Symantec Corporation. All rights reserved. *Includes manufacturers mail-in rebate. Offer good from 10/15/97 until 3/31/98. Rebates must be postmarked within 30 days of purchase. See instore coupons for further terms and conditions.

• cafe.symantec.com • cafe.symantec.com • cafe.symantec.com • cafe.symantec.com • cafe.symantec.com •

**Circle 151 on reader service card**

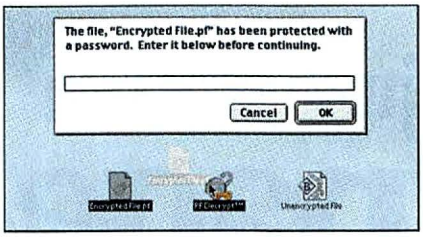
# Private File 2.0

ADEQUATE, SIMPLE ENCRYPTION

AS MORE PEOPLE COME TO RELY on the Internet for sending and receiving information, encryption software—utilities that protect valuable data from prying eyes en route—has moved from the realm of the esoteric into the mainstream. Aladdin Systems' Private File 2.0 provides a simple but effective way for people to encrypt files that travel over public networks.

Private File consists of a pair of applications for encryption and decryption. Operation of either component is easy. To encrypt your files, just select them and drag them onto Private File. You're presented with a dialog box in which you enter the password or phrase used to secure the data. The encryption utility first compresses the files and then encrypts the resulting archive.

Decrypting a Private File archive is an even simpler matter of either double-clicking on encrypted files or dragging them onto the decryption application. Upon opening the archive, Private File asks you for the password, and—after a brief wait as they're decrypted and decompressed—the files are deposited on your hard disk.




**Simply Secure** To encrypt or decrypt a file, just drag it onto the appropriate Private File component and enter a password.

Private File 2.0 ships on a hybrid CD-ROM containing both Mac OS and Windows versions of the software. Files encrypted on one platform can be decrypted on the other; the software can even automatically convert line breaks in text files if desired.

Because of current U.S. government regulations on encryption software, Private File is available in two versions: an export version that uses relatively insecure keys that are 40-bits long and a domestic version that uses much stronger, 128-bit keys. Although the domestic version cannot create 40-bit encrypted files, the decryption utility that comes with both the domestic and the imported versions can handle 40- and 128-bit files.

Private File also lacks the ability to save its files in a self-extracting format (similar to StuffIt's convenient **.sea** archive scheme), in which a minimal decompression engine is attached to the compressed file. This type of capability, or a freely distributable decryption component, would make Private File much more useful.

As shipped, Private File's Finder-integration features work only under System 7. Aladdin representatives said that a free patch to version 2.0.1—which provides full Mac OS 8 feature compatibility—should be available by the time you read this.

**Macworld's Buying Advice** Although the simplicity of Private File is perfectly suitable for encryption neophytes, a more capable package, such as PGP for Personal Privacy 5.0, from Pretty Good Privacy (650/572-0430, www.pgp.com), will better serve most users' security needs in the long run. PGP—the de facto multiplatform standard—offers a stronger feature set, seamless integration with popular e-mail packages, and a much better value.—STEPHAN SOMOGYI

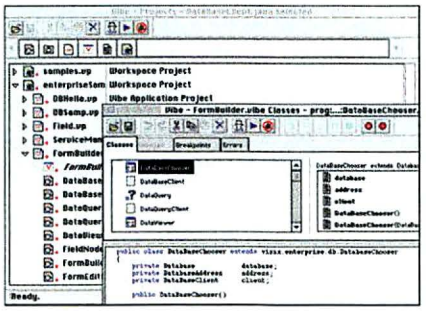
**RATING:** ★★★/5.2 **PROS:** Drag-and-drop simplicity; transparent cross-platform use. **CONS:** Limited feature set; no self-extraction capability; no OS 8 Finder integration. **COMPANY:** Aladdin Systems (408/761-6200, www.aladdinsys.com). **LIST PRICE:** Two-user license, $99.95.

# Vibe Enterprise

HIGH-END JAVA TOOLS FOR BUSINESS

FOR ALL ITS POTENTIAL, JAVA has some serious shortcomings from Mac developers' perspective. One is the sometimes months-long delay in the availability of Mac versions of the latest tools (JavaSoft's JDK 1.1 is a notable example); another is the platform-specific appearance glitches that typically bother Java applications. Visix Software's Java development environment, Vibe Enterprise 1.0.1, addresses these problems, along with the absence of Java in large-scale business solutions. The Mac and Windows (95 and NT) releases were nearly simultaneous, the application interface is native to each platform, and this version was designed specifically as an enterprise-scale toolkit.

The initial release of Vibe was a $49.95 cross-platform development tool for C++ programmers moving to Java. The much higher price of Vibe Enterprise reflects the addition of libraries and sample Java code for designing stand-alone databases and providing client access to Oracle and Sybase databases. Currently, its only competition is Symantec's recently announced $495 Visual Cafe for Java Database Development,



**Class Act** The feature that distinguishes Vibe Enterprise is a large library of classes for accessing and querying popular big-business databases.

which also promises links to Oracle, Sybase, and ODBC-compatible databases.

Like the more familiar Metrowerks, Roaster, and Symantec environments, Vibe has a fast text editor and a graphics-oriented dialog editor. It includes a fairly complete debugger—which unfortunately lacks conditional breakpoints—along with a browser for examining the megabytes of classes for basic Java and its more advanced database uses. Although Vibe's modify-and-rebuild cycle seems a bit slower than Metrowerks', the Java applications themselves are impressively fast; as stand-alone applications, they run at near-C++ speeds. And although Vibe's libraries are proprietary, the tutorial offers plenty of entry-level material to copy and paste.

Professionals will appreciate the ease of designing complex database applications with Vibe's powerful, hierarchical Service Broker (which manages multiple database connections) and slick, interactive SQL query builder. Another clue that Vibe is for professionals only is that it's still under construction: In Visix's own examples, for instance, scrolling text sometimes overwrites itself. Visix is conscientious about tracking, documenting, and fixing bugs, but the coming support for JDK 1.1 will likely only add to the list.

**Macworld's Buying Advice** Vibe Enterprise is an excellent tool for Java professionals doing database work for medium-size to large businesses. At its current price and state of development, it's not simple enough for beginners, but it's great for designing Web access to corporate Sybase or Oracle databases.—CHARLES SEITER

**RATING:** ★★★★/7.2 **PROS:** Powerful classes for serious database work; finished applications run quickly. **CONS:** Leisurely performance; generous, though well-documented, assortment of bugs. **COMPANY:** Visix Software (703/758-8230, www.visix.com). **LIST PRICE:** $1,995.

# Microtek image quality now comes in a sleek, little box.

*FEATURES:*
*• 30-bit color • Single-Pass*
*• 300 x 600 dpi optical resolution*
*• 4800 x 4800 dpi enhanced • Scans up to 8.5" x 11"*
*• New FlexScan™ Lid • Zero Reflection Design Technology™*

## MICROTEK ScanMaker V310

Introducing the all new ScanMaker® V310, the 30-bit color scanner from MICROTEK, the most trusted name in desktop scanning. If you don't have a lot of room on your desktop then this compact-sized scanner will fit right in. If you don't have a lot of time, but want to get the best quality images into your computer, then the ScanMaker V310's speed and color fidelity will impress you. After all, it is a MICROTEK.

So, whether you need to spruce up business proposals, capture images for a Web page, archive family photos or save the artwork your kids bring home from school — the software included with the ScanMaker V310 will let you do all of this and more! The only limit is your imagination. With the ScanMaker V310, scanning was never so easy or so much fun!

For more information, contact your nearest MICROTEK reseller, or MICROTEK at 1-800-654-4160 or visit our Web site at www.microtekusa.com.

***INCLUDES:***

*Kai's Photo Soap (full-application) from MetaCreations • MicroFrontier's Color It! • Caere's OmniPage Limited Edition OCR software for scanning pages of text • MICROTEK's award-winning ScanWizard™ scanner controller software*

## Also from MICROTEK:

### MICROTEK ScanMaker E3

**Quite possibly the most popular 24-bit color scanner on the market. Winner of numerous awards and accolades. Features a large scan area, image editing, OCR software, and ScanWizard. ONLY $149 (suggested street price)!**

### MICROTEK ScanMaker E6

**The 30-bit ScanMaker® E6 color scanner features a large scan area, 600 x 1200 dpi optical resolution, superb image quality and a quick SCSI interface. Only $299 (suggested street price)!**

**COMING SOON: See our Web site for our new Tabloid-Size Color Scanners!**

**MICROTEK**
*Better Images Through Innovation.*
www.microtekusa.com.

Prices mentioned are United States suggested street prices. Bundled software on CD-ROM / any retail packaging depicted is not available with this product.
All products mentioned are trademarks or registered trademarks of their respective holders. Caere Corporation (1-800-535-7226). Prices, specifications and software bundles are subject to change without notice. V310MW0198

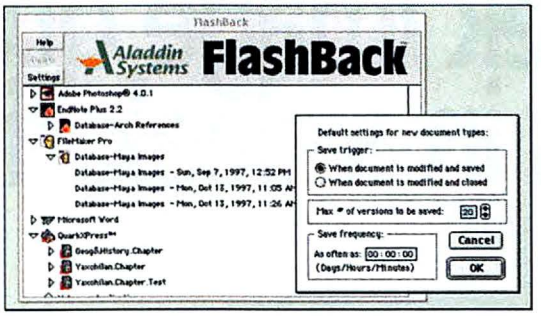
# FlashBack

FILE UTILITY TRACKS AND RESTORES PREVIOUS VERSIONS

THOREAU WROTE "SIMPLIFY, SIMplify," and for better or worse, Aladdin Systems has taken his famous maxim to heart in designing its latest utility. FlashBack 1.0, which remembers and restores previous versions of any file, is as lean and uncomplicated as it gets—so much so, in fact, that using FlashBack is actually more work than it should be.

The premise is straightforward: You tell FlashBack which files to monitor, and it runs in the background and records the contents of and changes to successive versions of each file (up to the number of versions you specify) every time the file is saved, every time you close the file, or at user-defined intervals. You can set those options for all files, for all the files of a specific application, or for individual files.

The FlashBack window (see "Déjà Vu All Over Again") lists every version of all the files being tracked. If you need to open a previous version—to undo changes you can't otherwise undo, to restore something edited out way back when, or to recover a lost or damaged file—you either double-click on the appropriate item in FlashBack's window or drag the item into the Finder. FlashBack then re-creates the file as it existed at the specified time.




**Déjà Vu All Over Again** FlashBack's Finder-like window lists the files it's tracking by application and the versions of each file it contains by date and time.

In its extreme simplicity, however, FlashBack is needlessly inefficient. For example, dragging and dropping individual files or groups of files into the FlashBack window is the only option for specifying files to be tracked—an unwieldy one if your files are organized in many nested folders. FlashBack has no command for automatically tracking all newly created files or all the files of a specific application or in a particular folder. (In fact, it has no meaningful commands at all.) And the FlashBack window doesn't let you organize an unmanageable number of documents into folders. In addition, even though FlashBack uses a difference engine to record version changes, the program takes up multimegabytes of hard-disk space when asked to track large graphics files.

**Macworld's Buying Advice** By running in the background as a separate application, FlashBack avoids the problems system extensions sometimes cause (at the expense of about 650K of RAM, however). And for those who need Undo and Revert options that are more comprehensive than what their applications provide, FlashBack may fill the bill. But until the program becomes more flexible and is able to track user-defined categories of files automatically, the rest of us may find it almost as easy to back up our edits the usual way.—ROBERT C. ECKHARDT

**RATING:** ★★★/6.0 **PROS:** No-hands background backups of earlier versions of files. **CONS:** Inflexible operation; lacks automatic tracking options. **COMPANY:** Aladdin Systems (408/761-6200, www.aladdinsys.com). **LIST PRICE:** $69.95.

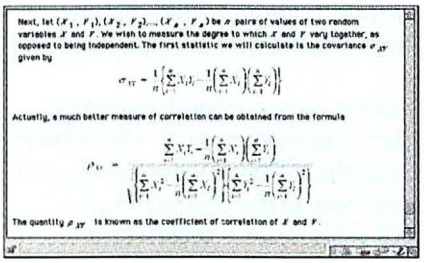
# MathType 3.5

MATH PUBLISHING, NOW WEB-READY

MOST MAC USERS ALREADY HAVE a bit of Design Science's MathType on their hard disks—a smaller version masquerades as the Equation Editor found in popular word-processing programs, such as Microsoft Word. The complete version of MathType sports the same simple interface: Palettes with common math symbols let you assemble equations rapidly.

Version 3.5 offers enhancements that range from merely convenient to downright essential. MathType now installs its own tool-bar button and commands in Word and lets you customize palettes and store macros for rewriting complex expressions. Like previous versions, MathType automatically handles finicky spacing and symbol-sizing details for perfect printed output.

An essential new command lets you save equations as antialiased GIFs (see "Math for the Web") that yield online math pages that look sharp and identical on all platforms. MathType also produces HTML code for any equation saved as a GIF, but the limitations of HTML make the GIF format aesthetically superior. Teachers will welcome a new set of features for reproducing classic textbook geometry notation.




**Math for the Web** Version 3.5 brings MathType's excellent printed-page output to Web documents.

Although Wolfram's Mathematica 3.0 (see *Reviews*, May 1997) uses a set of symbol templates similar to MathType's and creates "live" equations (rather than static images), MathType retains some key document-production advantages over its competitors. First, because MathType doesn't carry the symbol-interpreting overhead of Mathematica, laying out a few pages in MathType is dramatically faster. Also, because MathType limits its prowess to simple equation production, the program fits on a single floppy and runs well on any Mac. As you would expect, this version also offers technical-publishing–standard TEX output.

Unfortunately, MathType's orientation toward carefully defined output appearance comes at the expense of interoperability with straight-ahead math programs such as Mathematica or Maple V, from Waterloo Maple (see *Reviews*, November 1996). It would be a great convenience to be able to use MathType equations as input to Mathematica or Maple, instead of having to leave the equations as static pictures. In its current marketplace—where MathType is used mostly as a word-processing aid for generating exams, quizzes, and reports—this isn't a crucial defect. Design Science should consider writing a utility that translates the program's output into input for key programs.

**Macworld's Buying Advice** Equation-writing occurs more often in an instructional context than in any other, and MathType is ideally suited for the production of academic documents. As an upgrade to the ubiquitous Equation Editor in Microsoft Word and ClarisWorks, it quickly pays for itself in time saved.—CHARLES SEITER

**RATING:** ★★★★/8.6 **PROS:** Easy to use; no cross-platform glitches; fast; compact. **CONS:** Equations don't serve as "live" input for other math programs. **COMPANY:** Design Science (562/433-0685, www.mathtype.com). **LIST PRICE:** $199 (upgrade, $29; upgrade from MS Word Equation Editor, $89).

# Who wants some Wang?

## FRESH FROM THE CREATORS OF DUKE NUKEM 3D™

### LO WANG™ IS

# SHADOW WARRIOR™

for Macintosh®

LO WANG IS COMING TO THE LAND OF THE RISING SUN

TO TURN OUT THE LIGHTS. SHADOW WARRIOR.

THE ZEN IS GOING TO HIT THE FAN.

AVAILABLE NOW

MORE DETAIL, INTERACTIVITY, GAGS AND HILARIOUS LO WANG SPEAK THAN DUKE NUKEM 3D.

SWIM, DUCK, JUMP, DRIVE VEHICLES, CLIMB LADDERS, GO ANYWHERE, DO ANYTHING.

THROWING STARS, KITANAS, UZIS, FOUR-BARREL SHOTGUNS, RAIL GUNS, GOREWEAPONS... THE BIGGEST, BADDEST ARMORY IN GAMING HISTORY.

BUILT FROM THE GROUND UP FOR THE ULTIMATE "WANG BANG." CHOOSE FROM DEATHMATCH, CO-OP, TEAM PLAY OR CAPTURE-THE-FLAG-MODES.

Created by 3D Realms

Mac conversion by Lion Entertainment, Inc.

Available at COMPUSA 1-800-COMPUSA 1-800-266-7872

MacSoft®

An Affiliate of GT Interactive Software

2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

800-229-2714

Call for a free catalog or visit our website at www.wizworks.com

Shadow Warrior™ ©1997 3D Realms Entertainment, Inc. Lo Wang and his likeness are trademarks of 3D Realms Entertainment, Inc. All rights reserved. All other trademarks are property of their respective owners

Circle 28 on reader service card

# Internet Station

SLOW, PRICEY INTERNET LAN ACCESS

DESIGNED TO ALLOW SHARED modem or ISDN Internet access, Dayna's new Ethernet TCP/IP router promises to get network users onto the Internet quickly and easily. The NetCenter Internet Station 1.0 lives up to that promise, but at a higher price and slower speed than a dedicated ISDN router.

The Internet Station is a modem-size box with an Ethernet connection and three communications ports—one serial port and two PC Card slots—for either analog modems (up to 56 Kbps) or an ISDN terminal adapter (TA). You can connect a mix of Mac, Windows, Unix, and other systems using Dynamic Host Control Protocol; the Internet Station automatically sets the IP address and other TCP/IP values on every machine. Web-based configuration and an excellent online guide let you set up the router in a matter of minutes.

The Internet Station senses outbound Internet traffic and automatically dials your ISP, disconnecting after a period of inactivity. To the ISP, your entire network looks like a single dial-up user. Indicator lights show network activity and modem status, while the Web interface provides detailed error messages and other diagnostic aids. But despite its ease of use, the Internet Station may be problematic for Internet access. The product lacks remote-administration capabilities, making it difficult for ISPs to support. Although the Web-based setup is handy, most ISPs offer free router configuration services anyway.

The Internet Station also supports modem sharing for Windows computers, letting network users send faxes and access modem-based services, using two of the three modems while the third is connected to the Internet. Considering that other modem-sharing solutions cost $1,000 or more, this useful feature could easily justify the price of the product. Alas, because Dayna supplies no Mac modem-sharing software, Mac users can take advantage of only one of the unit's three ports.

The unit's performance is lackluster with multiple users connected over a 56-Kbps modem; modems are just too slow to share effectively. Replacing the modem with an ISDN TA yielded a throughput of 100 Kbps and acceptable response time with a half-dozen users. However, a dedicated ISDN router costs less than the Internet Station plus an ISDN adapter, and you get better performance into the bargain—the dedicated router offers 128-Kbps synchronous throughput and data compression.

ARNOLD TIOSEJO

**Macworld's Buying Advice** Most users will likely find any modem connection too slow for shared Net access. Unfortunately, an Internet Station plus an ISDN TA—the only solution for acceptable speed—costs more than a dedicated ISDN router and is much slower. The modem-sharing feature could have cinched the deal for Mac users looking for an all-purpose communications device, but as it stands, this one-trick pony just isn't very attractive.—MEL BECKMAN

**RATING:** ★★/4.8 **PROS:** Simple Web-based configuration; allows unlimited users on a single Internet account; supports ISDN. **CONS:** Expensive; too slow with a modem; modem sharing nonfunctional; no remote administration. **COMPANY:** Dayna Communications (801/269-7200, www.dayna.com). **LIST PRICE:** $659.


New! DiskExpress Pro now accelerated for Power Mac and much more!

DOUBLE YOUR DISK SPEED!

Alsoft DiskExpress Pro

*Without optimization, your disk performance slows to a crawl. Basic optimization may restore some of your disk's original performance. Only **DiskExpress Pro** can double your disk speed by providing faster access to the files you actually use!*

| | DiskExpress Pro 3.0 | Norton Speed Disk 3.5 |
|---|---|---|
| Makes your Mac faster than new by monitoring actual file usage? | YES | NO |
| Groups frequently used files together for optimum speed? | YES | NO |
| Allows you to schedule or immediately perform a complete optimization of all disks without having to restart your Mac? | YES | NO |
| Verifies accuracy of both read and write activity to ensure data safety during optimization? | YES | NO |
| Optimizes the busiest of AppleShare™, File Share™, and Internet/Intranet servers without interrupting productivity or taking the server off-line? | YES | NO |

Twelfth Anniversary

©1997 Alsoft, Inc. P.O. Box 927 · Spring, Texas 77383-0927 USA. Alsoft and DiskExpress are registered trademarks of Alsoft, Inc. Other product names are trademarks of their respective companies.

THE UTILITY COMPANY

www.AlsoftInc.com ALSOFT 800-ALSOFT1

Circle 140 on reader service card

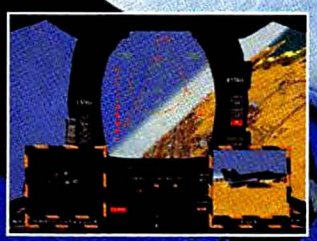
# Permission to Engage

# TOP GUN™

## FIRE AT WILL

You are Maverick-
and you've got your orders on your mind, Commander Hondo on your back and MiGs on your tail.
So fuel up. Strap yourself in.
And let 'em know your bark is nothing... next to your bite.

High-resolution voxel engine creates a photo-realistic experience



Lead your wingmen into fierce dogfights and air-to-ground combat in over 40 missions

Only the best of the best graduate from Top Gun

Training missions at the Naval Air Station at Miramar prepare you for intense combat

TOP GUN © 1997 Paramount Pictures. All Rights Reserved. Spectrum HoloByte is an authorized user. Spectrum HoloByte is a registered trademark of Spectrum HoloByte, Inc. MicroProse is a registered trademark of MicroProse, Inc. or its affiliated companies. All other trademarks are the property of their respective holders.

MICROPROSE

800-229-2714
Call for a free catalog or visit our website at www.wizworks.com

MacSoft®
An Affiliate of [illegible] Interactive Software
2300 Berkshire Lane, [illegible] 612.509.7600

Circle 23 on reader service card

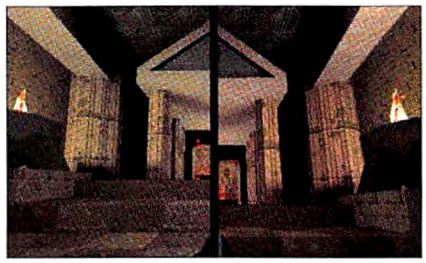
# Power3D

3-D-ACCELERATION CARD FOR GAMES

JUST A YEAR AGO, HARDWARE-based 3-D acceleration promised to be the Next Big Thing for Mac gamers, and ATI delivered with its Xclaim VR card. For gamers, the latest—and greatest—PCI-based solution is TechWorks' Power3D acceleration card.

But just for gamers. Unlike the ATI card, the Power3D's sole purpose is to accelerate the sort of 3-D graphics used in games—2-D graphics continue to be delivered by your Mac's on-board video. Because the Power3D can't display 2-D and 3-D video concurrently, it's not intended for use with design applications.

The Power3D's external pass-through cable routes the Mac's video output through the Power3D card. When an application supporting the Power3D launches, 2-D video bows out and the Power3D's 3Dfx Voodoo Graphics chip set—the de facto standard for PC-game acceleration—takes over. This bodes well for Mac entertainment enthusiasts: Nearly every PC game that supports hardware-based 3-D acceleration now comes in a 3Dfx-compatible version; those games ported to the Mac will most likely sport 3Dfx versions as well. Conversely, not all of these games will be compatible with the 3D Rave protocol used by ATI and Apple—Bungie's upcoming Myth: The Fallen Lords, for example, supports only 3Dfx-accelerated graphics.



**Before and After** Power3D gives Quake the subtle shadows and textures shown on the right, compared with the pixelated graphics generated by standard equipment on the left.

The result of the Power3D's acceleration is nothing short of spectacular. Myth, Quake, and MechWarrior 2 are drop-dead gorgeous when played with the Power3D installed. Previously pixelated textures are smoothed, water undulates, smoke and haze take on transparency, and shadows become far more realistic. What's more, the card delivers all this at high frame rates. On a Power Computing PowerTower 180e, the Power3D running the 3Dfx version of Quake attained 28.2 fps at full-screen, 640-by-480-pixel resolution, compared to 9.7 fps produced by the ATI Xclaim VR running the 3D Rave version of the game.

The Power3D comes bundled with full versions of Bungie's Weekend Warrior, Activision's MechWarrior 2, and VR Sports's VR Soccer; episode 1 of Quake is also included. The only thing missing from the Power3D box is the 32MB of RAM you're going to need.

Alas, the Power3D isn't compatible with many non-multisync monitors. The card has a locked, 60MHz refresh rate, and if your fixed-rate monitor can't adjust to this rate, you're out of luck. TechWorks claims to be working on this problem.

**Macworld's Buying Advice** Although the Power3D is a one-trick pony, the trick it performs—3-D acceleration for games—is done extremely well. If you're serious about 3-D gaming on the Mac, this is the card to have.—CHRISTOPHER BREEN

**RATING:** ★★★★/8.2 **PROS:** Produces beautifully rendered 3-D images; increases frame rate; good game bundle. **CONS:** Stiff RAM requirement; incompatible with many non-multisync monitors. **COMPANY:** TechWorks (512/794-8533, www.techworks.com). **LIST PRICE:** $249.95.

Ready for the Millennium

The way IT buyers shop for computer products is about to change.

buy

WebShopper™ webshopper.com

# ONE PLANET. ONE CHANCE. TAKE IT BEFORE THEY DO.

# DEADLOCK™

## PLANETARY CONQUEST

SIX RACES COLONIZE A VIRGIN PLANET. ONLY ONE WILL SURVIVE. BUILD YOUR PROVINCE'S STRUCTURES. CONDUCT RESEARCH TO ADVANCE YOUR RACE. DEVISE THE PERFECT STRATEGY OF DIPLOMACY, INTIMIDATION AND WARFARE TO ENSURE YOUR SURVIVAL. PLAY AGAINST THE COMPUTER OR A LIVE OPPONENT IN THIS INNOVATIVE TURN-BASED STRATEGY GAME.

"Absorbing Gameplay"
-Next Generation

"Deep, rich...one of the best conquer-the-planet strategy games in years. Editor's Choice"
-PC Gamer

"Sim City on Steroids"
-Computer Life

★★★★

"...richly developed backgrounds of the alien races and the thoroughly refined technology give this game a personality all its own."
-Computer Gaming World

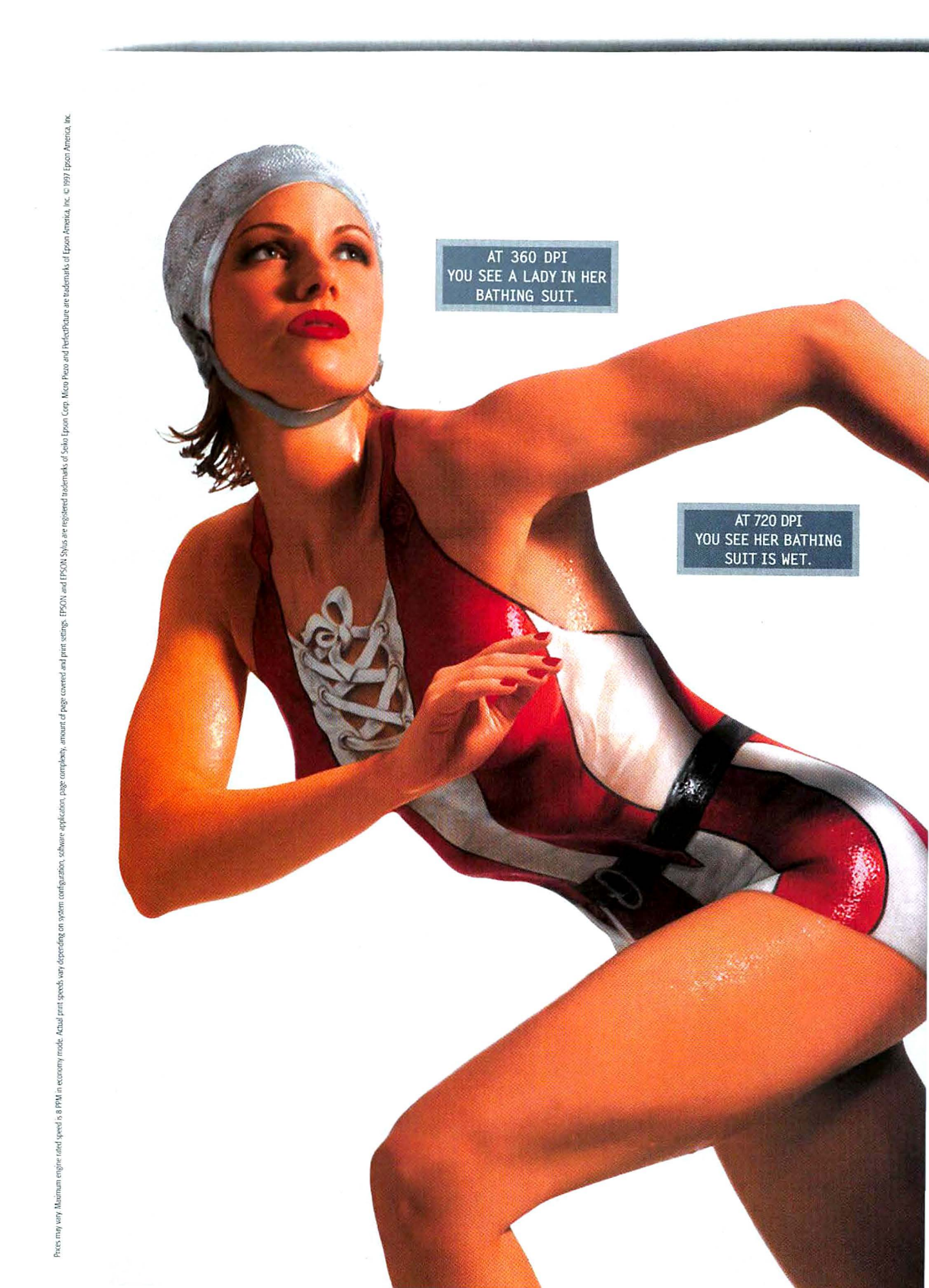
800-229-2714
Call for a free catalog or visit our website at www.wizworks.com

ACCOLADE

MacSoft®
An Affiliate of GT Interactive Software
2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

Deadlock is a trademark of Accolade, Inc. Apple, Macintosh, and MacOS are registered trademarks of Apple Computer, Inc. All other product names are of their respective owners. Published under license by Accolade, Inc. ©1997 Accolade, Inc. All rights reserved.

Circle 29 on reader service card




Prices may vary. Maximum engine rated speed is 8 PPM in economy mode. Actual print speeds vary depending on system configuration, software application, page complexity, amount of page covered and print settings. EPSON and EPSON Stylus are registered trademarks of Seiko Epson Corp. Micro Piezo and PerfectPicture are trademarks of Epson America, Inc. © 1997 Epson America, Inc.

YOU'VE GOT TO SEE IT IN EPSON COLOR.

AT 1440 DPI
YOU SEE HER BATHING
SUIT IS PAINTED ON.

An amazing paint job makes you think it's a bathing suit. These astonishing new printers let you know it's not. 1440 x 720 dpi—for incredible detail. Micro Piezo™ Technology—for a smaller, more consistent dot. All from our exclusive PerfectPicture™ Imaging System. You'll get Photo Quality color and laser-sharp black text—print quality that's already won 39 major awards, including PC Computing's 5 Star Rating. In standard format or wide format. PC/Mac compatibility. Optional internal Ethernet. Up to 8 ppm black/7 ppm color on the EPSON Stylus® Color 800. Plus a 2-year warranty. Call 1-800-GO-EPSON (ask for operator 3010) or visit us at www.epson.com for more details. For every detail, look at the output.

## INTRODUCING THE WORLD'S FIRST 1440 DPI COLOR INK JET PRINTERS.

EPSON Stylus® Color 800. High-performance business printer.

EPSON Stylus® Color 1520. The versatile wide-format printer.

**New Performance Champs** Apple's newest Macs—the Power Mac G3 266 tower, the Power Mac G3 233 desktop, and the PowerBook G3 250 notebook—bring both speed and value to the Mac community.

Macworld LAB TEST

# Apple's Next-Generation Systems

## PowerPC 750 Debuts at an Amazing Price

IF YOU THOUGHT THE DAYS OF LOW-COST, fast Macs died when Apple Computer killed off licensing of the Mac OS, think again. Apple has picked up the torch and is moving forward with a new architecture that drops fast Macs into the low-cost market. In fact, Apple's new Macs are so affordable that they are only a few hundred dollars more than Apple's budget Power Mac 6500/250, which offers half the speed of the new systems. Coming from Apple, such high performance with such a low price tag is simply amazing.

The new Power Mac G3 series is Apple's latest response to users' constant requests for affordable Macs. In fact, these bargain Macs are the first sign that Apple is trying to deliver on its overdue vow of inexpensive top performers.

by Allyson Bates

PHOTOGRAPHS BY KEVIN CANDLAND

Starting as low as $1,999, the Power Mac G3s promise high performance with economical upgrade options. This translates into Macs with quick system buses, low-cost upgrades, faster hard drives, and overall increased performance. And if *Macworld*'s first look at Apple's Power Macintosh G3 line is any indication, there are some great deals to be had. Apple expects to have the final systems available by the time you read this; we looked at prototype units.

How did Apple answer our prayers for low-cost, fast Macs? It streamlined manufacturing to cut in-house costs by standardizing on one motherboard design for all three Power Mac G3 models and creating *personality cards* for specific models. These cards contain multiple functions that would otherwise have to be on the motherboard, which would result in different motherboards for different models.

In a welcome change of pace for Apple's systems, the prices for the new Power Macintosh G3s come close to those of the competitive PC market. A comparably configured, MMX Pentium–based Dell Optiplex GN+ 233 PC costs $2,182 (including a 15-inch monitor), compared to a 233MHz Power Mac G3 with monitor's $2,350 price—and we expect the Power Mac G3 line to perform noticeably better than MMX Pentium–based PCs at the same megahertz rating.

Still, PCs are only getting cheaper: At press

time, NEC Technologies announced a 300MHz Pentium II–based system, the Direction SPL3000, for $2,298, including a monitor and a Zip drive. A comparably equipped Power Mac G3 266 tower will cost about $3,500 and likely will be no faster than the NEC system.

### Limited Configurations

Apple plans to have only three Power Mac G3 configurations at release. Apple will offer two desktop models and one tower configuration—a $1,999 233MHz desktop, a $2,399 266MHz desktop, and a $2,999 266MHz tower.

All systems use the new PowerPC 750 (widely known by its code name, G3) and sport a 512K secondary cache, a 66MHz system bus (old news in the PC market), 32MB of RAM (using the fast synchronous dynamic RAM, or SDRAM, that PCs started using last year), and 2MB (upgradable only to 6MB) of video RAM.

The 266MHz tower features a larger, 6GB IDE hard drive (instead of the 4GB desktop version) and more AV capabilities, including video in/out and a DAV (Digital Audio Video) connector. Apple introduced the DAV connector in the Quadra 840AV five years ago, but this attempt to create a special-purpose bus for motion video has not resulted in any appreciable number of DAV products, even though Apple has kept the DAV technology in various Power Mac lines.

Don't be too disappointed if you expected to see faster-megahertz systems from this product line. It's likely that we'll see even speedier CPUs in the future, since Mac licensees Power Computing and Motorola Computer Group announced 266MHz, 275MHz, and 300-MHz 750-based systems in August, which they canceled when Apple killed licensing of the Mac OS.

And while you may be pleased that these initial systems are much cheaper than the projected prices for the defunct 750-based clone Macs, you shouldn't expect the same accelerated performance or cross-platform compatibility (such as support for PC peripherals using parallel and PS/2 connectors) that the killed systems would have offered.

### Pushing the Limits

When we put these speed demons to the test, Macworld Lab got some interesting results. The 266MHz tower ranked the highest of all three configurations, with a mighty 4.5 SpeedMark score—higher than that of the much more expensive 350MHz Power Mac 9600/350, which uses the PowerPC 604e. (The 9600/350 is in such short supply that Apple has stopped taking orders for it. Only a few systems had been sold.)

The 9600 models do have more memory slots and PCI slots, but whether that's worth a $2,000 price difference remains to be seen.

### Where the Speed Comes From

Apple improved several components to get the high speed from its new mainstay Mac models.

**Faster System Bus** Shortened bus lengths on the smaller motherboard let Apple increase the system bus speed from 50MHz to 66MHz, since there's less possibility of signal degradation. A faster bus means that all components are communicating with one another more quickly.

**Backside Cache** The PowerPC 750 uses a different caching scheme than previous PowerPCs do. It has a special bus that connects the cache directly to the CPU (this scheme is called a backside cache), rather than going through the system bus, so data can move more quickly between the CPU and the cache. Plus, the connection between the cache bus and the PowerPC 750 runs at twice the speed of the system bus (a 2:1 ratio). That means a 133MHz connection for the 266MHz Power Mac G3s and 117MHz for the 233MHz model. Compare those with the 40MHz to 50MHz connections in previous Apple Macs.

Current Power Mac models are configured with a 512K backside cache, but Apple is considering bundling 1MB and possibly increasing the backside cache to a 1:1 ratio, which would have the cache bus run at the PowerPC 750's full 266MHz. Both techniques would significantly boost speed over the present 512K configuration. For more details on backside-cache technology, see "275MHz Mac Powerhouse," September 1997, and "Upstart Macs," October 1997.

**Memory Controller** In addition, Apple has programmed the memory controller/PCI bridge, which traditionally accesses only one function at a time, to take on multiple tasks. Therefore, instead of only being able to send single commands to the backside cache, the memory controller can now dictate one function while performing other duties.

### A More Upgradable Mac

Apple's new motherboard design, as well as some other design decisions, make the Power Mac G3 series one of the most easily upgraded Mac series Apple has ever offered.

**Easier Access** The motherboard's compact design (see the sidebar "Inside Apple's New Motherboard")—based on the PC-standard size known as ATX—let Apple move the hard drive in the desktop models, freeing up an extra drive bay (there are now two, versus the 7300's one). And the board's clean design allows easy memory and PCI-card upgrades. The tower's chassis, now more accessible to users, imitates the popular case design of the Power Mac 8600. Easy-to-locate green levers and handles make it simple to maneuver around in the clean interior.

**Removable CPU** Located near the bottom of the motherboard, the removable 233MHz or 266MHz CPU (a first from Apple) fits tightly into a PC-style ZIF (zero insertion force) socket, a convenient maintenance feature that will also allow CPU upgrades if faster CPUs become available. (Umax Computer already uses this approach in its SuperMac systems.)

**Personality Cards** One of Apple's

## New G3 Macs Call into Question the Value of 9600 and 6500 Models

| | Company's Estimated Price | Speed-Mark* | CPU TYPE 750 | 604e | 603e | CPU Speed | C |
|---|---|---|---|---|---|---|---|
| Power Macintosh 9600/300 | $3,799 | 4.3 | | ● | | 300MHz | 5 |
| ►Power Macintosh G3 266MHz tower prototype | $2,999 | 4.5 | ● | | | 266MHz | 5 |
| Power Macintosh 6500/300 | $2,999 | 2.5 | | | ● | 300MHz | 5 |
| Power Macintosh 6500/275 | $2,499** | 2.4 | | | ● | 275MHz | 5 |
| ►Power Macintosh G3 266MHz desktop prototype | $2,399 | NA | ● | | | 266MHz | 5 |
| ►Power Macintosh G3 233MHz desktop prototype | $1,999 | 4.0 | ● | | | 233MHz | 5 |
| Power Macintosh 6500/250 | $1,999 | 2.2 | | | ● | 250MHz | 2 |

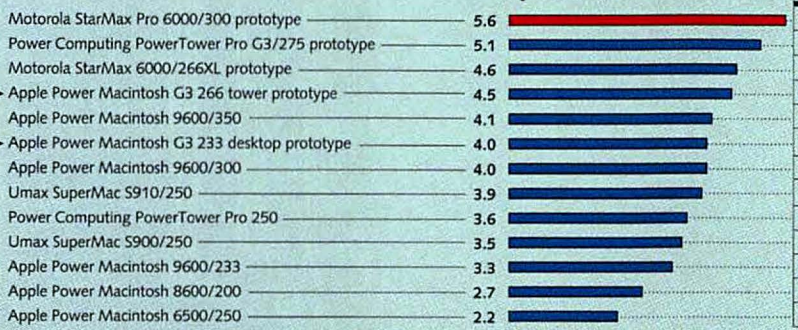
*NA = not available. ► Indicates new system. *Macworld Lab's SpeedMark test compares different systems' real-world application perform*

Macworld LAB TEST

# New Power Mac G3 Series Offers Solid Speed Boost

The new Power Mac G3 systems, when they ship in November, will bring top-level performance at midlevel prices. The new systems cost about $2,000 less than the faster PowerPC 750–based systems that Motorola and Power Computing had planned to ship but canceled when Apple rescinded Mac OS licensing. The new Apple systems match existing Apple models that cost much more, such as the 9600 series, and they vastly outperform comparably priced entry-level systems such as the Power Mac 6500/250. These new systems show that Apple has heard the price message and has gotten much of the performance message. Note that Apple was unable to provide a prototype 266MHz Power Mac G3 desktop system for testing.

**Best overall performance. Longer bars are better. Bold indicates best results in a specific test. ► New system. An Apple Power Macintosh 7100/80 has a SpeedMark score of 1.0.**




| CPU | FPU | Disk | Video | Star Rating |
|---|---|---|---|---|
| **6.2** | **5.4** | **3.9** | **9.8** | canceled |
| 5.9 | 5.2 | 2.8 | 9.4 | canceled |
| 4.9 | 4.7 | 3.4 | 8.5 | canceled |
| 5.0 | 4.2 | 3.0 | 6.9 | not shipping |
| 4.5 | 4.7 | 2.5 | 7.4 | not shipping |
| 4.5 | 4.1 | 2.7 | 6.5 | not shipping |
| 4.3 | 4.3 | 2.5 | 7.4 | ★★★/6.9 |
| 3.9 | 3.9 | 3.5 | 7.8 | ★★★/6.4 |
| 3.9 | 3.8 | 2.5 | 7.6 | ★★★★/7.1 |
| 3.8 | 3.7 | 2.5 | 7.3 | ★★★/6.7 |
| 3.5 | 3.4 | 2.3 | 6.9 | ★★★/6.6 |
| 3.0 | 2.9 | 1.9 | 3.6 | ★★★/6.3 |
| 2.3 | 2.1 | 1.8 | 3.1 | ★★★/6.0 |

**Behind Our Tests** The Apple G3 systems were running Mac OS 8. All other systems were running System 7.6.1.—**Macworld Lab testing supervised by Jeffy Milstead**

most innovative but frustrating ideas for the G3 line is the use of personality cards. Combining similar functions onto one riser card was one of several suggestions *Macworld* made to Apple that have found their way into these newest systems—a 66MHz bus, SDRAM, and an integrated CPU and cache card were three others; see "The Mac Reborn," September 1996.

In that article, we proposed combining communications features (modem, Ethernet, and ISDN) on one card. Now, over a year later, Apple has taken the idea one step further by grouping 16-bit stereo in/out and a K56flex 56-Kbps modem on a single personality card that latches into the new, proprietary personality connector. This card is standard on the two desktop Power Mac G3s. (Apple expects a software upgrade this spring that will update the modem's proprietary K56flex protocol into the final public 56-Kbps protocol now being developed.)

In the 266MHz Power Mac G3 tower, Apple adds AV capabilities on the card: 24-bit video in/output, a TV tuner connector, and a DAV connector for digital and audio hookup.

With these personality cards, Apple saves on production costs by making a single motherboard and adding appropriate cards. For you and me, however, the benefits are not as clear, since you can't buy personality cards with the options you want. For example, the AV personality card is available only with the 266MHz tower—you can't buy one for the other Power Mac G3 models. And Apple has no plans to license the personality cards so other companies can make them. The short of it: These cards won't be available to users as upgrades, from Apple or anyone else.

For the time being, these cards may free up PCI slots, but since you can't buy personality cards with other features, you'll have to start adding PCI cards or external devices to add or upgrade features later. And with only three PCI slots in these new systems, you'll be cramped for space.

| Bus Speed | Memory | VRAM | Hard Drive | CD-ROM drive | Zip Drive | Ethernet | Modem | Case |
|---|---|---|---|---|---|---|---|---|
| 50MHz | 64MB | 8MB | 4GB | 24× | ● | ● | | tower |
| 66MHz | 32MB | 2MB | 6GB | 24× | ● | ● | ● | tower |
| 50MHz | 64MB | 2MB | 6GB | 24× | ● | ● | ● | tower |
| 50MHz | 32MB | 2MB | 6GB | 24× | | ● | ● | tower- |
| 66MHz | 32MB | 2MB | 4GB | 24× | | ● | ● | desktop |
| 66MHz | 32MB | 2MB | 4GB | 24× | | ● | ● | desktop |
| 50MHz | 32MB | 2MB | 4GB | 24× | | | ● | tower |

*es are relative to those of a Power Macintosh 7100/80, which has a SpeedMark score of 1.0. **Three configurations available.*

## Standard Features

**Expansion Slots** The Power Mac G3 series comes with three PCI slots, as well as the DAV slot in the 266MHz tower. There's also the ZIF socket for upgrading to a faster CPU. For those who want a multiprocessing system, it's not clear if anyone will offer a ZIF-based upgrade, although it's technically possible.

**RAM** The three RAM slots, configured with a total of 32MB of RAM, are upgradable to 192MB in the desktop models. The tower model's six slots allow up to 384MB.

**Video RAM** On the motherboard, an ATI 3D Rage II chip with a 64-bit graphics accelerator chip are included with 2MB of VRAM. However, this card is upgradable to only 6MB, not 8MB.

## Inside Apple's New Motherboard

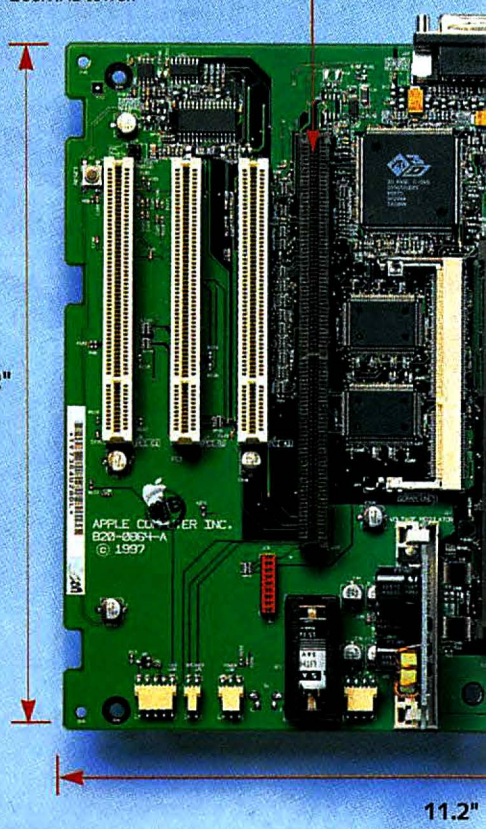
Bigger isn't always better. Especially when it comes to motherboards. Among the first changes to Apple's motherboard design for a professional-level Mac since the 7500, 8500, and 9500 were introduced more than two years ago, the most noticeable is its size.

The mini-ATX board, at about the size of a sheet of paper, takes up less room inside the box. It's 36 percent smaller, for example, than the Power Mac 7300's motherboard. Because the board takes less room in the case, the hard drive's location drops to the base of the unit, which means more room in desktop cases for another device such as a Zip drive or an extra hard drive. Although this form factor is new to Apple Macs, the Mac OS licensees have been using the ATX form for over a year now and PC manufacturers have been using it for at least two years.

But what's not so visible is what's really significant. That smaller motherboard is a new design, one that has fewer layers of circuitry and shorter bus lengths, which together result in greater performance and lower manufacturing costs.

The removable CPU is also a combination of values: The ZIF socket is cheaper to make and means easier upgrades. These CPU sockets are a first for Apple but have been in the PC arena for over five years, before the first Pentium CPU. Moreover, Umax started using ZIF sockets with the introduction of its SuperMac C series last year.

**A Fresh Design**
**Apple's new motherboard design adds more speed and upgrades by using both new and enhanced technologies.**




**Smaller Motherboard** The compact, clean design of the mini-ATX motherboard makes upgrading easier by moving slots to more convenient locations. It also helps open more space in the system's case for other components.

**Storage** The 233MHz and 266MHz Power Mac G3 desktop models include a 4GB IDE hard drive and a 24× CD-ROM drive, leaving two free externally accessible drive bays.

The 266MHz tower version has all the bells and whistles of the desktop models plus a 6GB hard drive, a Zip drive, and one free 5.25-inch bay.

In all three models, the use of IDE drives keeps costs down but also slows drive performance compared to that of the SCSI drives standard in most professional-level Macs.

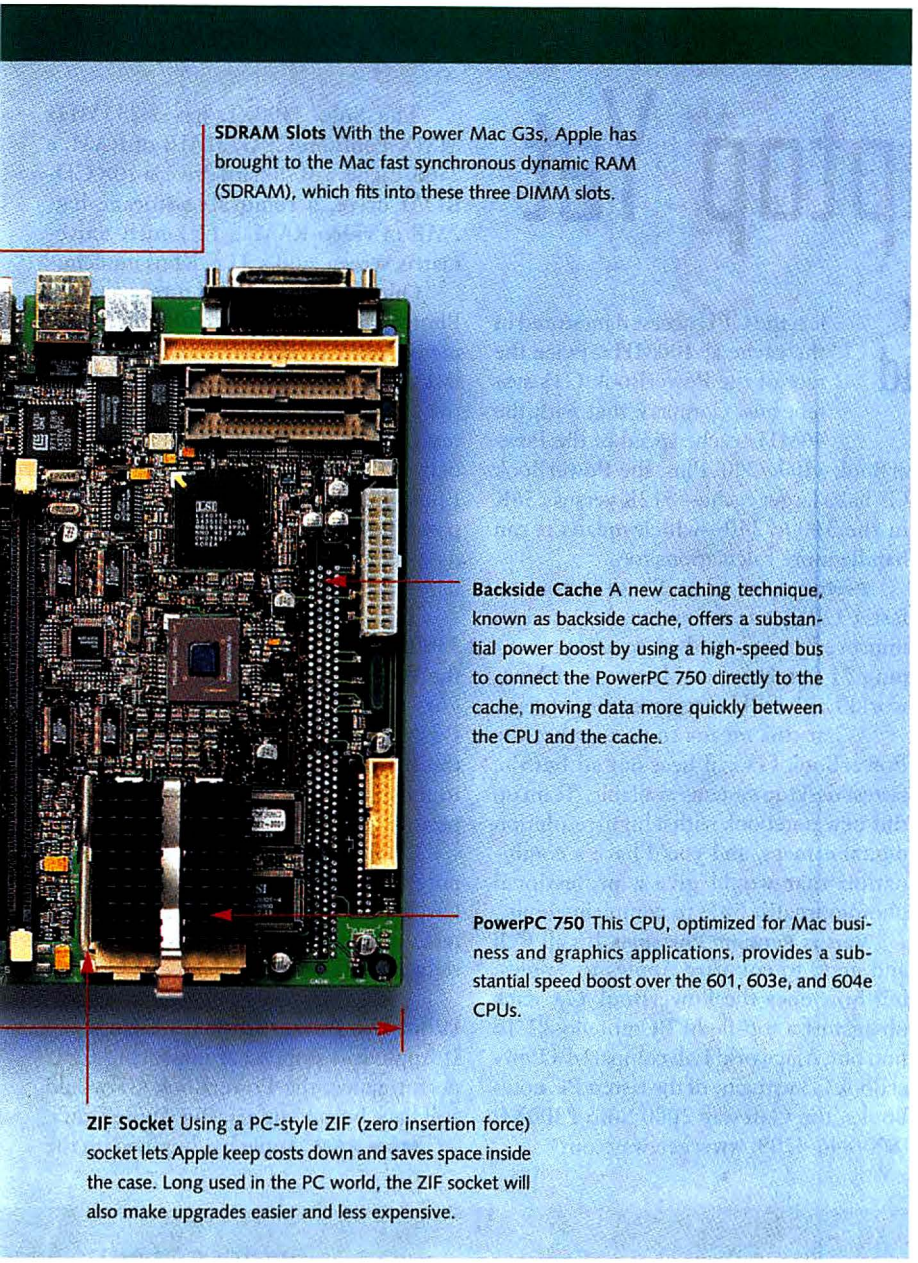
**Ports** As expected, Apple includes the traditional ports: 10BaseT Ethernet, two serial ports, an ADB port, the standard audio connectors, a Mac monitor port, and a SCSI-2 port. Note that the modem serial port is deactivated by the modem card that's on the personality card.

### An Architecture with a Past

The architecture that underlies the new Power Mac G3 series, known as CHRP (Common Hardware Reference Platform), is nothing new to the Mac market. Mac OS licensees, such as Power Computing and Motorola Computer Group, developed these Macs and for several months campaigned to get them on the shelves. But as these systems, such as Motorola's StarMax 6000 and Power Computing's PowerTower Pro G3/275, slowly inched their way to the production line, Apple yanked them off.

Apple itself had championed the platform for three years as the way to achieve lower prices (by using PC-standard parts), more flexibility (by letting owners use PC and Mac peripherals), and more variety (by letting clone makers create their own Mac designs, not just use Apple's). While Apple no longer mentions CHRP, the technology lives on in abridged form in the Power Mac G3 series, delivering on CHRP's first goal: lower cost. Thanks to the remaining CHRP underpinnings, Apple's Power Mac G3s offer very high performance at unexpectedly low prices.

**Abridged PC Compatibility** Unlike the PowerTower Pro G3/275 and StarMax 6000 prototypes we looked at several months ago (see "Upstart Macs," October 1997), the Power Mac G3 series lacks some crucial aspects of CHRP. To our disappointment, the Power Mac G3s lack a




parallel port, PS/2 serial ports, and a VGA monitor port—established CHRP standards. (A VGA port is now standard on Apple's new PowerBook G3.) Without a parallel port, low-cost printer options are still restricted. PS/2-style serial ports would let Mac users buy wireless keyboards and mice. Motorola's now defunct CHRP system had all these features.

**Component Inflexibility** The advantages to using industry-standard features are clear: Using common components decreases the system's overall cost and makes individual components more readily accessible to users.

Apple has implemented the first advantage but not the second. Although users can get components such as RAM and IDE drives from stores across America for do-it-yourself upgrades, they won't be able to get Apple or its dealers to custom-configure their Macs with different options from these readily available components—you're still restricted to what Apple decides to offer.

## Three Kinds of Macs

For two years, Apple has been saying that it is going to streamline its product offerings. That's finally going to happen. Apple feels so confident about these Power Mac G3s that it intends to streamline all its Macs into just three product lines: the Power Macintosh G3 series; the high-end Power Macintosh 9600s (the 300MHz and 350MHz models will survive; lower-speed ones have been dropped); and the education-oriented, all-in-one Power Macintosh 5500.

Over the next several months, you'll see the Power Mac 7300 and 8600 series disappear as the Power Mac G3s bask in the spotlight. The Power Mac 4400 and 6500 series won't vanish as quickly, but eventually the new G3 systems will trickle into the small-office and home market as well. Take note: With the $1,999 233MHz Power Mac G3s entering the market at about the same price as the Power Mac 6500/250s, the latter may be gone sooner than you think. Expect fire-sale prices as dealers clear out their inventory of these now-slow systems.

## The Last Word

We can all breathe a collective sigh of relief. With the future of the Macintosh in such a confused state for the last few years, it's comforting to finally see new systems that cater more to users' needs.

Still, it's unsettling to realize that, although these systems provide lower costs and greater performance bumps, Apple's Power Macintosh G3s are not the innovative new systems we had hoped for. No speed records were shattered, as with Apple's new notebook (see the article "Fastest Laptop Yet"). No PC technologies were implemented to broaden our peripheral options. And no new ingenious technologies were developed over what Mac OS licensees had already done: smaller ATX motherboards, removable ZIF CPUs, faster cache architectures, and the PowerPC 750.

Apple effectively slashed the prices of the Power Mac G3s by using a streamlined motherboard design, personality cards, and cheaper components. Unfortunately, it cut some corners too close in doing so: Apple should let other vendors make personality cards, and it should use faster IDE or SCSI drives.

The new Power Macintosh G3 line is a welcome, but not complete, addition to the Mac platform. Apple has successfully started to address its price/performance deficit but has yet to reclaim its position as a computing innovator. Still, low-cost industry-standard components and superfast CPUs move these Macs to the forefront—the first step to making the Macintosh market more accessible to its devoted users. **m**

Associate editor ALLYSON BATES used to cover all Mac vendors but now focuses her energies on Apple.

# Fastest Laptop Yet

Macworld LAB TEST

## New PowerBook Retakes the Lead

by Henry Bortman

Less than a year ago, Apple lay claim to the world's fastest notebook with its PowerBook 3400c/240, creating a sorely needed victory in the Mac/PC wars. Nine months later, the 3400c's speed is not so impressive, given the rash of fast Pentium notebooks that debuted in the summer. So Apple has struck back, producing the new PowerBook G3, which, according to Macworld Lab tests of a prototype, is twice as fast as a 3400c/240 and faster in most tests than a 233MHz MMX Pentium-based PC notebook. The result is a Mac notebook that again lays claim to being the world's fastest notebook.

And Apple's done this for about $5,700—$800 *less* than the 3400c/240 cost when it debuted. (The 3400c/240 now costs $4,500; the 3400c/200, $3,800; and the 3400c/180, $3,200.)

That's the good news. The bad news is that Apple has carried over several flaws and undistinguished aspects of the 3400c.

### A Precocious PowerPC

The most important speed enhancement is the PowerBook G3's CPU, the PowerPC 750, the CPU used in the new Power Mac G3 desktop and tower systems.

**The 750 Advantage** Given that the PowerBook's CPU runs at 250MHz, a clock speed only a shade higher than that of the 240MHz CPU in the PowerBook 3400c/240, why is the PowerBook G3 so much faster? The answer is that the PowerPC 750 is a much faster chip, megahertz for megahertz, than the 603e that lies at the heart of the 3400c.

**A Better Bus** The PowerBook G3 has another advantage over the 3400c/240, by virtue of its faster system bus: 50MHz versus the 3400c/240 bus's 40MHz. The faster the system bus, the less time the CPU has to sit idle waiting for data to arrive from memory.

The PowerPC 750 incorporates what's known as a backside cache, which lets the CPU access data stored in the cache at 100MHz, twice the rate of the PowerBook G3's system bus. Compare that with the 40MHz cache speed of the PowerBook 3400c/240. Plus, the PowerBook G3 has a larger cache—512K versus 256K in the 3400c/240—which means it can handle more calculations too.

**Performance Leap** These factors—a faster CPU, a faster system bus, and an improved cache—add up to an eye-popping 71 percent speed increase in Macworld Lab's CPU-intensive suite of tests.

What this means to you is that the PowerBook G3 can beat out all but the fastest desktop systems available. Team up this new notebook with a high-resolution digital camera, and you'd have a combination that would give a professional photojournalist little to complain about.

**Versus Pentium Portables** It's all well and good to compare Apples to Apples, but how does the PowerBook G3 stack up against a top-flight PC notebook? To find out, Macworld Lab compared a PowerBook G3 with one of the fastest PC notebooks, the Gateway 2000 Solo 2300XL (800/846-4208, www.gateway.com).

The Solo 2300XL has a 233MHz MMX Pentium CPU, 32MB of RAM, a 256K cache, a 3GB hard drive, a 10× CD-ROM drive, a removable-storage bay, 2MB of video RAM, a 12.1-inch active-matrix screen, and a 33.6-Kbps modem.

Our test suite included three common Photoshop tasks, a 3-D render in Macromedia Infini-D, and two Microsoft Word tasks. The winner in almost every test was the PowerBook G3. On our Photoshop tests, the PowerBook beat the Solo by between 30 and 43 percent. The PowerBook did even better on the floating-point–intensive 3-D–rendering test. And its speedy graphics chip showed its advantage in our Word scrolling test.

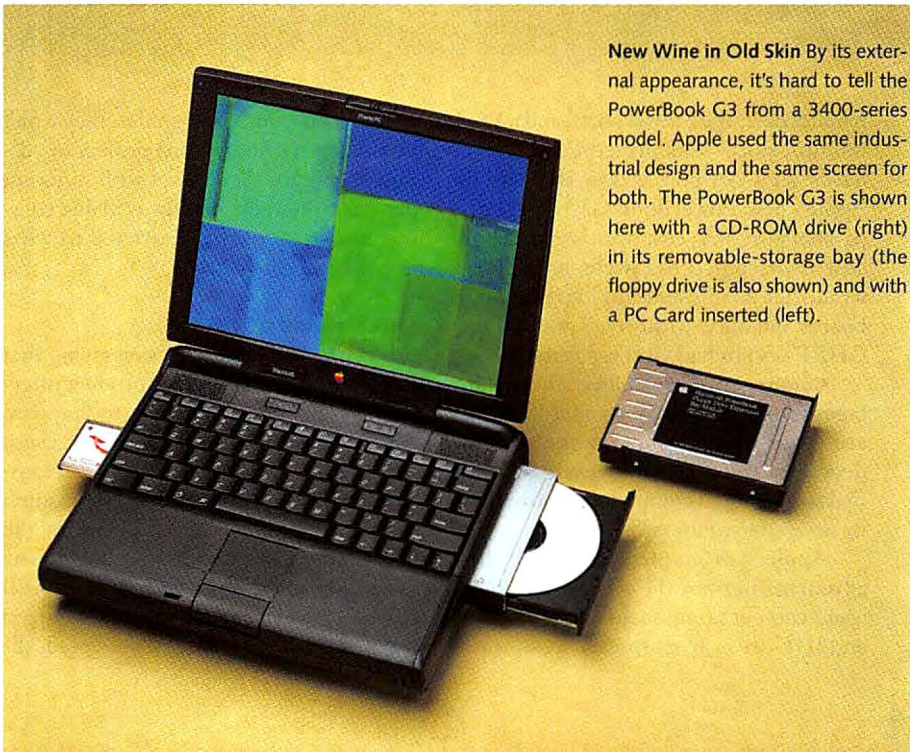
The only test in which the Solo 2300XL bested the PowerBook G3 was the Word find-and-replace test. This just goes to prove that even a screaming-fast PowerPC CPU can't always overcome the engineering effort Microsoft expends to guarantee that its Windows apps outperform their Mac-based cousins.

On the other hand, the Gateway 2000 notebook costs only $3,799, nearly $2,000 less than the PowerBook G3—and $700 less, in fact, than the recently price-reduced 3400c/240.

### What the PowerBook G3 Offers

If Apple had stopped at improving CPU performance, the PowerBook G3 would still have been a winner. But Apple didn't.

**More RAM** Apple has bumped up the



**New Wine in Old Skin** By its external appearance, it's hard to tell the PowerBook G3 from a 3400-series model. Apple used the same industrial design and the same screen for both. The PowerBook G3 is shown here with a CD-ROM drive (right) in its removable-storage bay (the floppy drive is also shown) and with a PC Card inserted (left).

Macworld LAB TEST

# The PowerBook's Incredible Performance Leap

The PowerBook G3 represents an astonishing leap forward in speed. While admittedly not as fast as Apple's new Power Mac G3 systems, it leaves Apple's former top-performing PowerBook, the PowerBook 3400c/240, in the dust. Apple has made improvements in nearly every area affecting PowerBook speed: The PowerBook G3 contains a PowerPC 750 CPU running at 250MHz, a 50MHz system bus, a 512K backside cache (accessed at 100MHz), a high-performance 5GB IDE hard drive, and 2MB of VRAM for graphics display. The result is an unprecedented overall speed improvement of 65 percent over the PowerBook 3400c/240, for only 27 percent more money.

**Best overall performance. Bold indicates best results in a specific test. ►New system. An Apple Power Macintosh 7100/80 has a SpeedMark score of 1.0; longer bars are better. Mac versus PC results are in seconds; lower times are better.**

| | SpeedMark | CPU | FPU | Disk | Video | Star Rating |
|---|---|---|---|---|---|---|
| **The Fastest Notebook Mac . . .** | | | | | | |
| ► Apple PowerBook G3 250MHz prototype | 3.3 | **3.6** | **3.6** | **2.2** | **4.0** | not shipping |
| Apple PowerBook 3400c/240 | 2.0 | 2.1 | 2.1 | 1.6 | 2.3 | ★★★★/7.2 |
| Apple PowerBook 2400c/180 | 1.6 | 1.7 | 1.7 | 1.3 | 2.1 | ★★★/5.8 |
| Apple PowerBook 1400c/166 | 1.1 | 1.2 | 1.2 | 1.0 | 1.0 | ★★★/6.1 |
| **. . . Catches Up to Desktop Systems . . .** | | | | | | |
| ► Apple Power Macintosh G3 266MHz tower prototype | 4.5 | **5.0** | **4.2** | **3.0** | 6.9 | not shipping |
| Umax SuperMac S900/250 | 3.5 | 3.8 | 3.7 | 2.5 | **7.3** | ★★★/6.3 |
| Power Computing PowerTower Pro 225 | 3.4 | 3.6 | 3.4 | 2.3 | 7.2 | ★★★/6.4 |
| Apple Power Macintosh 9600/233 | 3.3 | 3.5 | 3.4 | 2.3 | 6.9 | ★★★/6.6 |
| Apple Power Macintosh 8600/200 | 2.7 | 3.0 | 2.9 | 1.9 | 3.6 | ★★★/6.5 |

| | Adobe Photoshop 4.0 | | | MetaCreations Infini-D* | Microsoft Word** | |
|---|---|---|---|---|---|---|
| **. . . and Blasts Past Pentium Notebooks** | Convert RGB to CMYK | Unsharp Mask | Rotate to Arbitrary Angle | 3-D Render | Scroll Document | Find and Replace |
| Apple PowerBook G3 250MHz prototype | **8** | **14** | **24** | **37** | **30** | 11 |
| Gateway 2000 Solo 2300XL (233MHz MMX Pentium) | 14 | 20 | 35 | 108 | 69 | **4** |

**Infini-D 4.0 on the Mac and Infini-D 4.1 on the PC. **Word 6.01 on the Mac and Word 97 on the PC.*

## Behind Our Tests

All systems were tested with 32MB of RAM. The PowerBook G3 prototype was running Mac OS 8. The PC notebook was running Windows 95.—**Macworld Lab testing supervised by Susan Silvius**

amount of RAM to 32MB, from 16MB in the 3400c. It's expandable to 160MB.

**Bigger, Faster Drives** The PowerBook G3's hard-disk drive is nearly twice the size of the 3400/240's: 5GB versus 3GB. And the new disk drive is 38 percent faster than its predecessor. You almost never see a jump in drive speed as large as those in CPU speeds; the drive's 38 percent gain is a *major* improvement.

A slow hard drive often negates the speed of a fast CPU, and Apple wisely avoids making that mistake by marrying a fast drive with a fast CPU—something it did not do, strangely enough, with its G3-based desktop systems.

And that extra 2GB provides plenty of room for all those huge presentations, Microsoft Office, and a game or two. You'd be hard-pressed to find a faster or higher-capacity drive for a notebook.

You'll also find a faster CD-ROM drive—20× versus 12× in the 3400c.

**More Video RAM** Apple has upped the VRAM complement from 1MB in the 3400c/240 to 2MB in the PowerBook G3. Smart move. Unfortunately, the PowerBook G3's VRAM, like the 3400c/240's, isn't upgradable. Dumb move. But 2MB is enough to provide you with 24-bit graphics at up to 832-by-624-pixel resolution and up to 1,024 by 768 pixels at 16-bit color when the PowerBook is connected to an external monitor. (The built-in screen's LCD technology limits its bit depth to 18 bits.) The external-video port is a 9-pin VGA connector, but Apple includes a VGA-to-Mac adapter.

The PowerBook G3's video display is fast—74 percent faster than the 3400c/240's, our tests show. Unfortunately, you still can't run an external monitor as a second monitor, as you can on most other Macs—the PowerBook G3, like the 3400c, can have the external monitor mirror the LCD panel's contents only if the LCD is also active. You also can display to an external 640-by-480-pixel device such as an LCD projector only if you turn off the LCD panel's display—both display devices must work at 800-by-600-pixel resolution for mirroring to work. Finally, you must restart the PowerBook G3 when connecting to an external monitor.

**Other Features** Otherwise, the PowerBook G3 is pretty much the same as a PowerBook 3400c: same boring case, same use of a nonstandard PCI slot, same PC Card slots, same support for Zoomed Video, same 12.1-inch active-matrix LCD screen, same ports (10BaseT Ethernet, high-density SCSI, audio input/output, ADB, and serial), same drive bay, same two-hour battery life, same speakers (with their poor-sounding subwoofer), and basically same weight (7.5 pounds).

### The Last Word

Despite some carryover flaws from the 3400c, this new PowerBook will be the fastest notebook computer anywhere. This is a fully loaded, no-apologies system, able to perform the most-demanding tasks. It truly could function as a desktop replacement. And although it's not priced for the timid, we expect the PowerBook G3 to be worth every penny of the $5,700 you'll have to shell out for one. **m**

---

Senior technology editor HENRY BORTMAN uses a PowerBook 1400, but he'd like to upgrade.

# A PARENT'S WISH

## "A computer my kids will learn from and I can put to work."

**UMAX**
MAKES WISHES COME TRUE!

## C600 The SuperMac C600 line from UMAX is perfect for your educational computing needs.

Choose from a range of quality machines that all deliver high-end performance at a very low cost. With the C600, you can do easy projects such as calendars, newsletters, term papers, greeting cards, and more. All this from UMAX, a company committed to providing the best in customer service and support for Mac OS systems. The SuperMac C600. It's the perfect holiday gift for the office or home.

### C600vPC/240*

*Now you get Windows and Mac capabilities on one powerful machine!*

- 240MHz 603e PowerPC Processor
- 3.3GB IDE hard drive
- 24x CD-ROM Drive
- 32MB RAM, 256K L2 Cache
- Stereo Multimedia External Speakers
- CacheDoubler-Ready
- 10Base-T Ethernet
- Connectix Virtual PC (DOS edition) and other software
- Expandable Mini-Tower Case

*Other models and specifications available. Monitor not included.*

For more information on where to purchase the C600, call 1-888-625-UMAX or visit us at http://www.supermac.com.

MacUser 5 Mice · MacWeek 4 Apples · Macworld Star Rating 4 Stars · MW Editors' Choice · PowerPC · Mac OS · High-Upgradeability

**UMAX®**
Computer Corporation

© 1997 All rights reserved. SuperMac is a registered trademark licensed to UMAX Computer Corporation. Mac and the Mac OS logo are trademarks of Apple Computer, Inc. used under license. PowerPC and the PowerPC logo are registered trademarks of International Business Machines Corporation. *Monitor not included.

# THE PRO GRAPHICS WISH

## "A machine that handles all my big ideas."

UMAX
MAKES WISHES COME TRUE!

### S900BASE

The S900BASE model combines convenient upgradeability and state-of-the-art engineering— so you can get blazing performance. Here's how the upgrade works: purchase an S900BASE and receive a $500 discount towards an upgrade with a MAXpowrPRO+ processor card (UMAX edition) from Newer Technology that will make this machine blazing fast. It's an incredible deal!

**S900BASE***

- 150MHz 604 PowerPC Processor
- 64MB interleaved RAM
- 4GB Ultra SCSI hard drive
- 24x SCSI CD-ROM
- 6 PCI slots
- PCI-PCI bridge
- 7 drive bays
- 10Base-T Ethernet
- 8 DIMM slots for upgrade to 1GB memory
- Get the MAXpowrPRO+ upgrade today! See details at www.supermac.com.

*Monitor not included.*

### S900i/250

The popular S900i/250 model supports high-end graphics applications with truly superior performance. This is the most powerful internet-ready workstation on the market– a workstation that, like the Power Mac® 9600, will continue to be upgradeable. With the S900, you're guaranteed the best tools for your creativity.

**S900i/250***

- 250MHz 604e PowerPC Processor
- 64MB interleaved RAM
- 4GB Ultra-wide SCSI hard drive
- 24x SCSI CD-ROM
- 6 PCI slots
- PCI-PCI bridge
- 7 drive bays
- 10/100 Base-T Ethernet
- Internal Zip Drive

*Monitor not included.*

For more information on where to purchase the S900, call 1-888-625-UMAX or visit us at http://www.supermac.com.

MacUser ★★★★★ · MacWeek ♦♦♦♦ · Macworld STAR RATING ★★★★ · MW EDITORS' CHOICE · PowerPC · Mac OS · High-Upgradeability

**UMAX®**
Computer Corporation

© 1997 All rights reserved. SuperMac is a registered trademark licensed to UMAX Computer Corporation. Mac and the Mac OS logo are trademarks of Apple Computer, Inc. used under license. Power Mac is a registered trademark of Apple Computer, Inc. PowerPC and the PowerPC logo are registered trademarks of International Business Machines Corporation. MAXpowr is a trademark of Newer Technology, Inc. *Monitor not included.

**Circle 100 on reader service card**

games
systems
CD Roms
Fun stuff

# Macworld's Holiday Gift Guide

SNOW FALLS, BELLS RING, CANDLES GLOW, children sing, and shoppers cram into jam-packed malls across the land. 'Tis the season to get whipped into a frenzy in an attempt to find the perfect gifts for friends and loved ones. But if the special people in your life are Mac users, you're in luck. Our crack *Macworld* team has braved the crowds and scoured the catalogs, and we're back with a wish list you won't have to check twice.

For that cousin who's worn out his copy of Marathon Infinity and is ready to move on to new challenges, you can't go wrong with the array of amazing software in this year's Game Hall of Fame. If slaying demons or exploring alien worlds doesn't happen to be your friend's cup of tea, then consider our list of *Macworld*'s favorite CD-ROMs for kids of all ages.

As you salivate over those Editors' Choice–winning games and CDs, don't let your own aging Mac get you down. After all, there are more than a dozen speedy new Macs you can buy for less than $2,000. And the irresistible little extras we've uncovered that are bound to warm any Mac user's heart won't break your budget.

So sit back, put your aching feet up, and forget about the crowds. You've got an edge on all those crazed shoppers. Your little helper is *Macworld*'s Holiday Gift Guide.


Great Games.....page 80

Stellar CDs.....page 87

Bargain Systems.....page 93

Irresistible Extras.....page 98

1998 Game Hall of Fame

# Great Games

## GET OUT YOUR JOYSTICKS FOR NONSTOP FUN

by Steven Levy and Cameron Crotty

AS INDUCTION TIME ROLLS AROUND AT THE MACINtosh Game Hall of Fame, things as usual are bustling. This is a relief, because—can we be frank here?—this hasn't been the greatest year for the Hall, what with all the uncertainty about, you know, the platform.

But now that our annual gala at the Hall's virtual headquarters in Pittsfield, Massachusetts, approaches, we feel OK. The RSVPs are tumbling in from Internet domains in Cupertino, San Rafael, Hollywood, New York, Tennessee, and Texas. The hoteliers in nearby Lenox report full houses. We expect a banner crowd in our grand ballroom, where one wall now sports a newly painted mural of a pumped-up handshake between Steve Jobs and Bill Gates.

We're hoping Mr. Jobs himself will attend, standing behind our joystick-equipped dais as we have him explain the process by which the Game Hall of Fame chooses its esteemed entrants: A duo of expert curators coolly evaluates the wealth of contenders and makes decisions that, although subjective, invariably stand the test of history. And then, with no need for a Reality Distortion Field, the Stevester will announce this year's winners: a stellar cast, in and of themselves a reason for optimism. Let the games begin!

### Adventure

RIVEN ★★★★/8.3

Just as we were closing down our nomination process, a breathless messenger came to the Hall bearing the five-disc set of Riven, the long-awaited sequel to Myst. For the

**Riven** Don't pause too long to admire the beauty of the Riven world—you've got a lot of work ahead as you try to solve your way out.

next 30 hours all activity stopped as we slapped it on the Power Mac and, after a suitable period of slack-jawed admiration at the stunning graphics, immersed ourselves in a follow-up that, for once, actually tops the original in almost every respect.

Of course, those coming to Riven are much wiser than first-time Myst-ers and are familiar with the routines about linking books, arcane codes to operate machinery, and weird chairs that take you to strange places. But the amazing vividness of the graphics, live action, and sound here provides its own novelty. It is unimaginable that anyone captivated by the Miller Brothers' first effort will not want to dive into this new fantasy world.

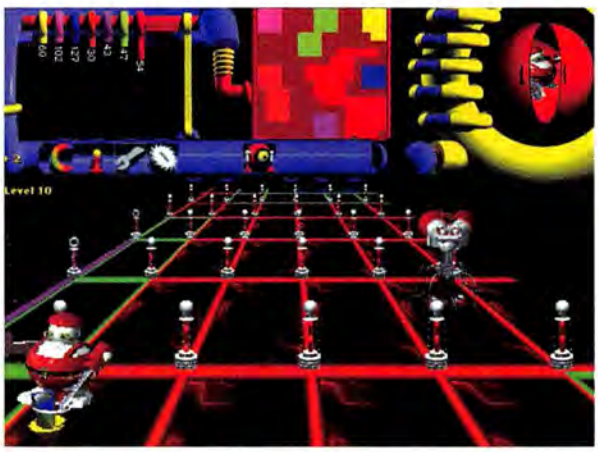
*Red Orb Entertainment/Broderbund Software, 415/382-4777, www.riven.com; $50.*

## Arcade

GRIDZ ★★★★/8.8

Territory rules in Gridz 1.0, a maddeningly compelling challenge that requires you to stake out a claim in a Net-Space, a spreadsheetlike battleground. Then you must defend your turf to the death and, hopefully, extend your domain to rule the grid.

It's not an easy endeavor, since both you and your foes (either computer-operated or human tormentors) conduct




**Gridz** The slightly orange red zone is your empire—in the map on top, note that you've got blue surrounded. In the foreground is a builder robot who's hoping to steal space from the pink zone.

war and real estate by use of accurately described "goofy little robots" designed to claim space, steal space from others, and buzz-saw (even bomb) opposing robots. (Upside: Sometimes it's smart to let others duke it out while you build strength.) Each time you conquer, a higher, trickier level awaits—but you also get points that allow you to buy more-exotic 'bots.

Playing Gridz is addictive, plus the fanciful, often hilariously destructive robots are a hoot. And the game's sounds—grinding, beeping, *kaboom*ing—are not only cool but also crucial in allowing you to identify threats to your 2-D empire.

*Green Dragon Creations, 601/473-4225, www.greendragon.com; $35.*

**F/A-18 Hornet** Tell the boys on the ground to pull their heads in and button up, because the high heat is on the way, extra pronto.

## Flight Simulator

F/A-18 HORNET ★★★★/8.8

A perennial contender for the flight category, Graphic Simulations' F/A-18 Hornet has only improved over the years. Version 3.01 breaks through with improved graphics and even more-realistic cockpit-system simulations.

A large part of being a successful pilot is developing "situational awareness," and while your Hornet feeds you plenty of data, it's up to you to analyze it and act like a real pilot. Whether you're flying against the computer or a real opponent, Graphic Simulations' latest provides quality air time and then some.

*Graphic Simulations, 972/386-7575, www.graphsim.com; $30.*

## Strategy

CREATURES ★★★★/7.7

For all the hue and cry about "artificial life"—using computers to create digital beings that actually live, if not breathe—the most fetching organisms to emerge from silicon so far have been those little Tamagotchi things that kids drag around.

Until now. Creatures allows you to hatch little reptilian pets called Norns and raise them as your own, even teaching them language. Virtual parenthood isn't easy. It takes skill, patience, and forbearance—but not private-

**Creatures** It's up to you to train your little creature, or Norn. The hand can either praise (by tickling the nose) or punish (by slapping the butt). Paging Dr. Spock!

**Links LS** There's nothing like a relaxing round of golf. You can almost feel the wind in your face and smell the trees while you listen to your ball crash through the underbrush.

school tuition—to see a Norn through childhood and adolescence and into adulthood. You do have to watch out for the Grendels, who live in trees and carry diseases that could doom your Norn. Although Creatures can draw you in powerfully (maternal/paternal instinct runs deep), be forewarned that after only 15 hours or so, a Norn can die of old age.

*Mindscape Entertainment, 408/737-6800, www.creatures.mindscape.com; $40.*

## Action

### DUKE NUKEM 3D: ATOMIC EDITION ★★★★/7.0

He's mad, bad, and dangerous to know, but if you're a Mac gamer looking for a serious shot of attitude, Duke Nukem might just be the best friend you've got, pilgrim. With an impressive and entertaining array of weaponry and other fun hardware (we love the JetPak), Duke takes on hordes of invading aliens in level after level of colorful and downright *creepy* surroundings.

Parents and the easily offended should note that Duke Nukem (developed by 3D Realms) is definitely R-rated for both violence and sexual content, but the game's comic tone and addictive action more than make up for the occasional crudity. Load up on the heavy artillery, and let's go get some!

*MacSoft, 612/509-7600, www.wizworks.com/macsoft; $50.*

**Duke Nukem 3D** It's always a party when Duke Nukem comes to town. Those evil aliens should know better than to leave high explosives just lying around, shouldn't they?

## Sports

### LINKS LS MACINTOSH ★★★★/8.6

Computer sports simulations are always compromises—just check the difference in your heart rate after clicking a mouse and after running 100 yards, and you'll see what I mean. Perhaps because golf is more about finesse than sweat, Links LS manages to capture much of the game's elusive essence. A few moments spent soaking in the lush graphics and background sounds will put you in the mood to adjust your stance, check the wind, and go for the perfect swing. Just remember to hold on to that Zen-like calm after you shank another drive into the hardwoods. Links is, after all, a simulation.

*Access Software, 801/359-2900, www.accesssoftware.com; $50.*

## Kids

### PUTT PUTT TRAVELS THROUGH TIME ★★★★/8.7

It's only fitting that the first inductee in this long-overdue category involves an adorable little jalopy named Putt Putt, protagonist in a series of no-reading-necessary adventure games that present a wonderful alternative to the twitch games and the preachy-teachy stuff usually offered to cyberwhippersnappers.

**Putt Putt Travels through Time** Putt Putt meets characters like this grizzled prospector. Hear these buzzards out—you might get something you need.

This is the fourth in a series—previously the Puttmeister has gone on parade, to the moon, and to the zoo—and each journey has been more elaborate than the previous, loaded with fascinating characters and interesting diversions (as well as a catchy soundtrack that lasts longer than the game, which itself lasts for hours).

In this iteration, the plucky little auto has to time-travel to retrieve his belongings; an unfortunate incident involving fireworks has spread them centuries apart, as early as dinosaur days and as late as the Jetson-ion future.

As with the other Putt Putt games, there is a point behind all the jollies: to encourage junior adventurers to master the reasoning and problem-solving skills necessary to complete the task. But the bottom line is fun, and as in grown-up adventures, the journey itself is the reward.

*Humongous Entertainment, 425/486-9258, www.humongous.com; $40.*

**Quake** This MacSoft game showcases developer Id Software's visions of death and destruction, which have always been a little darker and more twisted than most.

## Network

QUAKE ★★★★/8.6

The office clock reads five-oh-oh and—after a long day of mollycoddling incompetents—it's time to kick a little ass. Reach for your copy of Quake 1.08.3 (developed by Id Software), and get ready to light up the network. Quake's realistic 3-D environment delivers unparalleled realism to point-and-kill sessions, but the basic software package is only the tip of the iceberg.

Quake is nearly infinitely customizable and has spawned a huge following. A quick jaunt through the Web will hook you up with new maps, new weapons, and literally hundreds of fellow gamers itching for a Deathmatch. Quake sets a new standard for network gaming.

*MacSoft, 612/509-7600, www.wizworks.com/macsoft/; $50.*

## Role Playing

THE LAST EXPRESS ★★★★/8.7

It's Myst meets Agatha Christie in this absorbing ride on the Orient Express. Europe is preparing for World War I, but your problem is more immediate: You are Robert Cath, an

**The Last Express** Who knows who you'll meet on the Last Express? Maybe Alexei, a Russian anarchist. Will he punch your ticket?

# HARDWARE

F-16 FIGHTERSTICK ★★★★/8.7
PRO THROTTLE ★★★★/8.4

FOR YEARS WE'VE WAXED RHAPSODIC ABOUT THE Macintosh game software, but never before has *Macworld* doffed its hat to the hardware side of the aisle. We couldn't ignore this last year's bumper crop of joysticks, pedals, thumb pads, and other specialized doodads designed to enhance your gaming experience.

With so many worthy candidates, choosing a winner was a tough call—but that's the kind of high-pressure situation Game Hall of Fame curators thrive in. And so we induct CH Products' (760/598-2518, www.chproducts.com) F-16 Fighterstick ($120) and Pro Throttle ($100). Both controllers are solid-feeling and responsive, sport loads of buttons and switches, and come with software that makes configuration a snap.

**One-Two Punch** The Pro Throttle (left) and the F-16 Fighterstick (right), from CH Products, deliver the precision hands-on control that Mac gamers need to stop the bad guys in their tracks.

We would be remiss, however, if we didn't tip our hats to the runners-up: two companies that have been faithfully serving up quality products to Mac gamers for years.

Advanced Gravis Computer Technology (604/431-5020, www.gravis.com) was one of the first companies to fly in the face of tradition and offer game hardware to the Mac community. Its original Mousestick and current Mousestick II ($60) were like manna from heaven for a generation of Mac game enthusiasts, and it's kept up the pace with several recent new releases—the Firebird ($90) and the Blackhawk ($70).

ThrustMaster (503/615-3200, www.thrustmaster.com) deserves credit for being the first company to bring realistic flight-sim hardware to the Mac. Its Flight Control System for Macintosh ($110) and Weapons Control System for Macintosh ($75) remain first-class choices for any flight-sim enthusiast.—CAMERON CROTTY

American who boards the venerable train, only to find his buddy dead in compartment one.

What transpires next is an adult-directed murder mystery, rendered in exquisite graphics inspired by Toulouse-Lautrec (eat your hearts out, Doom players) and unfolding in an orderly, brisk progression that keeps you alert while not punishing you for experimenting. (If you do make a fatal error, you can "rewind" the game to the point before which you committed your boo-boo.)

What makes The Last Express vividly memorable is the painstaking detail, particularly the lush score and the faithfully rendered sounds of the most famous train ever. So while you may never solve this three-disc conundrum, you'll never forget the ride.

*Red Orb Entertainment/Brøderbund Software, 415/382-4777, www.lastexpress.com; $40.* **m**

---

Veteran Game Hall of Fame curator and *Newsweek* senior editor STEVEN LEVY wrote *Insanely Great: The Life and Times of Macintosh, the Computer that Changed Everything* (Viking, 1994). CAMERON CROTTY, an ex-arcade rat, made his living hustling Tempest until he figured out that he could get paid for writing about computer games.

## COMING ATTRACTIONS

A GAMER AND A PROgrammer will never be satisfied. The latter always wants to add "just one more thing," while the battle cry of the former is, "That was cool. What's next?"

In the spirit of these two archetypes, the curators of the Game Hall of Fame this year encouraged companies to let us see their best stuff, even if it wasn't quite finished. A game can be considered for induction only if it ships before our deadline, but here's the inside dope on a couple of contenders for next year—which should be out for the holidays. —CAMERON CROTTY

### Myth: The Fallen Lords

In the fantasy vein, Bungie Software (312/563-6200, www.bungie.com) is busy pushing the envelope of real-time strategy games with its much anticipated Myth: The Fallen Lords. Fallen Lords ($49) focuses intensely on battlefield tactics: You direct the actions of natural and supernatural troops in a real-time 3-D environment while circling over the entire field of combat from a god's-eye view. Early returns on time spent in the command chair are extremely positive—this will be a network game to watch out for.

### Diablo

Mac gamers who have been looking longingly over their friends' shoulders at Blizzard Entertainment's (714/955-0283, www.blizzard.com) action/role-playing PC hit Diablo now have reason to rejoice: We've played betas, and the Dungeons and Dragons–style game is nothing short of awesome. Diablo ($50) eschews the first-person point of view in favor of a top-down three-quarter view in a 3-D environment. The graphics are beautiful, the game play is exciting and intriguing, and we have to finish writing this fast because we want to play more right now!

**Battle Plan** Directing an army in combat in a swamp in the rain isn't an abstract exercise in Myth: The Fallen Lords.

**Clobberin' Time** In Diablo, going face-to-face with a rabid pack of Blood Knights is all in a day's work for your basic adventuresome heroic types.

network need a little

# PICK-ME-UP?

**CALL DR. FARALLON℠ FOR A FREE PRESCRIPTION OF *SPEED.* AND YES—IT'S LEGAL!**

*Speed* is absolutely essential in today's fast-paced business world. With file sizes growing and speed-intensive applications running constantly, your network will no doubt have a little congestion. When the over-the-counter remedies are no longer enough, you might need the advice of an expert. Leave the diagnosis to **Dr. Farallon.** No matter what kind of network you're running, Dr. Farallon can prescribe the remedy you need to increase productivity and profitability.

### *Send Your Files S.T.A.T.*

If your file transfers across the network are slow and time-consuming, **Timbuktu® Express** is the remedy for you. Designed to run on any network, Timbuktu Express is file acceleration software that will dramatically increase your network's performance by as much as 450%. So give your files the kick-start they need to get moving at their highest potential.

### *By-pass Network Slowdowns*

Improving performance on your existing Ethernet network can be easily achieved with a **Starlet® Switch** from Farallon. By broadcasting traffic only to the designated segment of your network, the Starlet Switch can drastically reduce traffic, thereby increasing overall network performance.

For sending files over a wide area network connection to clients or service bureaus, be sure to ask Dr. Farallon about our **Netopia™ family of ISDN, Frame Relay, Fractional T1 and T1 Internet Routers.**

### *Speed Your Way To Recovery*

If your network is clogged from too many large files, Fast Ethernet is the answer. With 10 times the bandwidth of traditional 10Base-T Ethernet, **Farallon's Fast Ethernet cards, hubs and switches** will have your file transfers moving at top speed in no time.

So to cure your network performance maladies, call Dr. Farallon to receive a FREE diagnosis and prescription for a customized treatment.

**Schedule your FREE network check-up today by calling, 1-800-613-4954. For more information, visit www.farallon.com/dr.farallon**

*Network specialists are standing by.*

Farallon®

# what WORKS for you?

## PERFORMANCE. RELIABILITY. VALUE.

Panasonic PanaSync™ monitors give you exactly what you need to get the job done. Our monitors have been designed with today's business environment in mind. If you're looking for a solid, feature rich monitor, try our S15, S70 or S21– ready for virtually any application. If you're looking for a space saving Liquid Crystal Display, take a look at our LC40, it's an amazing achievement. With a full screen display measuring less than 3" deep, it features a sharp, brilliant picture. And when it comes to performance and affordability we've set a new industry standard.

| Model | S15 | S70 | S21 | LC40 |
|---|---|---|---|---|
| Dot Pitch (mm) | 0.27 | 0.27 | 0.27 | 0.2775 |
| Max. Res. NI (H X V) | 1280 X 1024 | 1280 X 1024 | 1600 X 1280 | 1024 X 768 |
| H-Scan (kHz) | 30 - 67 | 30 - 70 | 30 - 95 | 30 - 61 |
| Viewable Area | 13.7" | 16.0" | 20.0" | 14.0" |

And if you're concerned about customer support, take a look at our program– it's the most extensive warranty and customer support program in the industry. Our 3-Year Limited Warranty on parts, labor and the CRT, 1-Year On-Site Exchange Program, and 24-Hour, 7-Day Customer Support Hotline, all at no additional cost, adds value you won't get from the competition.

So take a look at the PanaSync™ Series designed for today's business and put one to work for you today.

Panasonic
Computer Peripheral Company
We Make Your PC Come Alive.

MN19-MCW

1-800-742-8086 ext. MN19 www.panasonic.com/alive

**Circle 60 on reader service card**

by Wendy Sharp

# Stellar CDs

## FIND A GIFT FOR EVERYONE ON YOUR LIST

'TIS THE SEASON TO SEEK OUT PRESENTS FOR LOVED ones far and wide, and a grueling task it can be! Nothing's worse than giving gifts that sit around unused and underappreciated, except perhaps receiving gifts that *you* hate.

We can't solve all your gift-giving dilemmas, and there's nothing we can suggest for folks who don't have computers or CD-ROM drives (perish the thought). However, this guide can help you choose the perfect CD-ROM for all your computer-savvy friends and family.

We picked our favorite CDs, using a stringent set of objective criteria. First, the CDs had to be fast. Too many discs make you sit at your computer tapping your fingers and wondering if anything's happening. Second, they had to be easy to use. If you have to memorize the manual, we bagged the disc. Third, they had to be fun—or at the very least, interesting. Did we say objective? Well, OK, there were some highly *subjective* criteria. Last, we wanted lots of variety and chose CDs from a wide range of categories to make sure there'd be a great gift for everyone on your list.

### Business

TEAMS THAT WORK ★★★★/7.1

A fine present for a small-business owner (but a bit pricey), this CD-ROM teaches business managers how they can work effectively in teams. Using videos, expert commentary, and text explanations, the disc explores the dynamics of teamwork, from conflict management to the use of power. Checklists and worksheets help you assess your team's strengths as well as diagnose its problems. The most enjoyable part of the CD is an interactive case study that allows you to take on the role of a team member. As you watch QuickTime movies, read memos, and listen to voice-mail messages, you make decisions and confront problems that teams typically face. Through occasionally dry but generally interesting QuickTime videos, author Anne Donnellon offers input about the issues managers face and the choices they make.

*Harvard Business School Publishing, 617/496-1449, www.hbsp.harvard.edu; $295.*

### Culture

TREASURES OF THE AMERICAN MUSEUM OF NATURAL HISTORY ★★★★/8.2

There are tons of CD-ROMs that let you explore different museums, but this tour of the American Museum of Natural History is one of the best. Wander through 50 exhibits, ranging from meteorites to dioramas. Along the way, read text articles on all 50 topics, listen to recorded speeches, look at photographs, and watch movies and interviews. You can even tour QuickTime VR panoramas of exhibits such as the Akeley Hall of African Mammals. Various surprises, such as a morph demonstrating human evolution, add to the fun. The attractive and appealing interface uses icons to make navigating simple and *a lot* easier on your feet than the real thing. Although this CD is a bit sophisticated for kids (the text is closer to college level than junior-high), several exhibits are fun for all ages. For one, the Dinosaur Dig Game lets you uncover and assemble dinosaur bones in a jigsaw puzzle that any dino enthusiast will enjoy.

*Voyager, 800/446-2001, www.voyager.com; $40.*

### Documentary

WITNESS TO THE FUTURE ★★★★/7.2

Inspiration doesn't always come in a cheerful package, but

**Witness to the Future** The film footage on this CD includes stark imagery of badly damaged environments.

if you seek thought-provoking material for an environmentally inclined friend, look no further. Based on a film about environmental problems faced in three communities—Hanford, Washington; California's San Joaquin Valley; and Cancer Alley, Louisiana—this disc includes all the film's footage, in addition to complete transcripts of the interviews involved, background information on the towns, and the text of Rachel Carson's *Silent Spring*. Especially compelling are the accounts of various whistle-blowers who have faced persecution and hostility for exposing corruption and dishonesty. The CD also includes links to the Witness to the Future Web site and 250 other sites. You may want to wrap it along with a box of tissues, but rest assured, this moving portrait of real people acting bravely is a gift your friend will not forget.

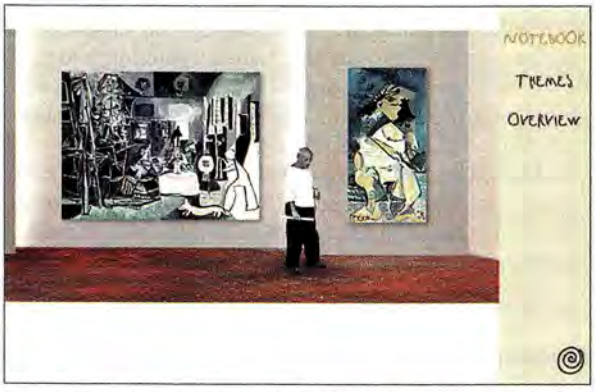
*Voyager, 800/446-2001, www.voyagerco.com; $40.*

## Fine Art

PICASSO: THE MAN, HIS WORKS, THE LEGEND ★★★★/7.8

Style and substance blend on this CD-ROM starring one of the 20th century's most famous artists. Approved by the Picasso family (and, perhaps as a result, light on criticism of the artist's life), this CD contains more than 600 artworks plus explanations of the styles, techniques, motifs, and themes of Picasso's work. You explore the CD via a QuickTime VR panorama gallery. Click on one of 17 paintings (which represent the creative periods of the painter's life) to enter a timeline with biographical information, photos, film clips, and more. Best of all, the CD is a remarkable work of art in its own right—theme music and design create a stylish, postmodern look and feel. For example, the alphabet in the index looks scribbled, randomly sized, and disorderly—just as Picasso might have written it himself.

*Grolier Interactive, 203/797-3530, www.grolier.com; $40.*




**Picasso** Picasso himself walks amid 17 of his works of art in the QuickTime VR panorama that provides this CD's basic interface.

## History

FDR ★★★★/8.3

For the history buff in your life, we recommend this CD-ROM detailing the life and times of Franklin Delano Roosevelt. By weaving together movies, photographs, personal documents, vintage audio clips, and newsreel footage, this CD lets you fully explore the longest American presidency. There's smart and articulate analysis by noted historians Doris Kearns Goodwin, Geoffrey Ward, and Bill Leuchtenberg. Several touches—including reproductions of historic documents, such as the draft of Roosevelt's speech after Pearl Harbor, and interactive photographic tours of the Roosevelts' five homes—add to the feeling of immediacy. This disc is an especially fine gift for a teenager interested in history, as it really makes the past come alive.

**FDR** Small touches such as this handwritten excerpt from Roosevelt's draft of the famous "Day of Infamy" speech bring this CD to life.

*Corbis, 206/641-4505, www.corbis.com; $40.*

## Home

WILLIAMS-SONOMA GUIDE TO GOOD COOKING ★★★★/8.3

This mouthwatering cookbook will pique any chef's palate. The CD-ROM contains 50 menus compiled by Chuck Williams, the founder of Williams-Sonoma. Its glossary defines and illustrates hundreds of terms and includes QuickTime movies of cooking techniques. The search engine lets you find recipes by characteristics such as cooking time and ingredients, while the index of 1,000 recipes also makes it easy to find just what you seek. Most CD-ROM cookbooks offer similar features; what distinguishes the Williams-Sonoma cookbook is the sheer beauty of its

**Williams-Sonoma Guide to Good Cooking** Cooks and food lovers alike will lick their lips over this CD-ROM's food photography.

pictures, the interesting food facts scattered throughout, the appeal of its recipes, and its straightforward but remarkably attractive interface. Anyone who enjoys browsing cookbooks will find this one—from its main menu (which looks like a cluttered kitchen table) to its favorite-recipes list worthy of Martha Stewart—a delicious treat.

*Brøderbund Software, 415/382-4400, www.broderbund.com; $40.*

## Kids' Education

MATH HEADS ★★★★/8.2

Wacky, fast-paced, and frantic, this math game might drive parents crazy, but kids ages 10 to 14 will have a good time and learn a lot, too. Using an on-screen remote control, you flip from channel to channel on the Math Head interactive television network. Three game shows challenge you to think fast and to estimate accurately and reward you either with prize money or the chance to create your own music videos. You can even spend your prize money on the shopping channel! In our favorite game, Go Mental, celebrities tell you how they've solved math problems. You decide whether they've done it correctly. Even the infomercial channel teaches practical math skills in a fun and entertaining way. Nothing's going to make math as appealing as MTV, but this game sure comes close.

*Theatrix Interactive, 510/658-2800, www.theatrix.com; $30.*

**Math Heads** The game shows on Math Head TV challenge you to think fast and estimate accurately.

## Kids' Entertainment

PAJAMA SAM IN "NO NEED TO HIDE WHEN IT'S DARK OUTSIDE" ★★★★/8.0

In this game for kids ages 3 to 8, Pajama Sam, the world's youngest superhero, sets forth to battle Darkness with his trusty flashlight; mask; and signature-edition all-metal Pajama Man lunch box. Alas, some unfriendly trees swipe his stuff, leaving you to help Sam search the Land of Darkness for his belongings. Along the way, you'll meet dancing furniture and talkative vehicles, plus such notable individuals as the carrot leader of the Salad Liberation Front (whom you help lead a kitchen revolt). Combining the point-and-click animated surprises of Brøderbund's Living Books with the problem solving and puzzles of an adventure game, this charming children's game is fun for grown-ups, too.

*Humongous Entertainment, 206/486-9258, www.humongous.com; $40.*

**Pajama Sam** As Pajama Sam searches for his lost belongings, he discovers—much to his dismay—that the furniture likes '70s disco music.

## Reference

BRITANNICA CD 97 ★★★★/7.7

For sheer comprehensiveness, it's tough to beat the Britannica CD 97. With its more than 40 million words of content, you can find information on pretty much any topic. Its natural-language search function lets you ask questions in plain English—"Who invented the computer?"—and returns a list of articles ranked according to relevance. Britannica CD 97 uses the Netscape Navigator Web browser as its functional, but not particularly flashy, interface. If you have Web access, you can link to Britannica Online to download the most-up-to-date information available (at a cost of $50 per year). Using Britannica isn't smooth—some links don't work—and it lacks the whizzy multimedia features of some other encyclopedias, but it offers an incredible amount of information for a reasonable price.

*Encyclopædia Britannica, 800/747-8503, www.eb.com; $150.*

## Science

EYEWITNESS VIRTUAL REALITY EARTH QUEST ★★★★/7.1

For a one-of-a-kind CD-ROM experience, check out Earth Quest. This beautiful (but slow) science CD lets you explore a 3-D rendered landscape of Earth's interior. In a simulated underground museum, you can create earthquakes or volcanoes and watch their effects on a landscape. You can also wander through galleries of gems, rocks, and crystals, watching them develop and learning how they form. Collect minerals from the galleries and answer questions about Earth to enter the CD's Earth Builder section and learn how the continents formed. Be aware, though, that this CD is a memory hog; with 16MB of RAM, we encountered numerous "out of memory" messages.

*DK Multimedia, 440/572-0725, www.dk.com; $30.* m

WENDY SHARP is a freelance writer and coauthor of *Macs for Kids and Parents,* from IDG Books.

**Earth Quest** Learn all about the formation of the continents in this CD-ROM's Earth Builder game. Entire centuries pass in seconds as you watch the continents transform through five geological time periods.

# THE RUNNERS UP

### FIVE FOR KIDS

**1 Big Science Comics** ★★★★/8.1
This animated comic book for kids ages 8 to 12 offers puzzles that explore physical forces such as buoyancy and elasticity. *Theatrix Interactive, 510/658-2800, www.theatrix.com; $30.*

**2 Freddi Fish 2: The Case of the Haunted Schoolhouse** ★★★★/7.7
This amusing underwater story for kids ages 3 to 8 is about ghosts who are not what they seem. *Humongous Entertainment, 206/486-9258, www.humongous.com; $40.*

**3 How Many Bugs in a Box?** ★★★★/7.5
This brightly colored, kid-friendly CD includes 8 simple counting games suitable for kids ages 3 to 6. *Simon & Schuster Interactive, 212/698-7000, www.simonsays.com/cddomain/; $20.*

**4 Orly's Draw-A-Story** ★★★★/7.4
The pictures you draw come to life in this cool multimedia storytelling program. *Broderbund Software, 415/382-4400, www.broderbund.com; $29.*

**5 Ready to Read with Pooh** ★★★★/7.4
Pooh fans will love seeing and playing with Piglet, Eeyore, and Roo, although this game for ages 3 to 6 is a little slow. *Disney Interactive, 818/543-4300, www.disney.com; $35.*

### FIVE FOR GROWNUPS

**6 Leonardo da Vinci** ★★★★/7.7
This richly detailed CD-ROM on Leonardo da Vinci enables you to explore a gallery of his work. *Corbis, 206/641-4505, www.corbis.com; $50.*

**7 A Night to Remember** ★★★★/7.3
Immerse yourself in the details of the *Titanic*'s famous demise. The CD includes the complete footage of its namesake 1958 movie. *Voyager, 800/446-2001, www.voyagerco.com; $30.*

**8 Canon Photography Workshop** ★★★★/7.2
Learn how to improve your photographs through hands-on lessons in this nicely designed CD. *Multicom, 206/622-5530, www.multicom.com; $20.*

**9 Elle Cooking** ★★★★/7.1
The simple interface of this CD is perfect for those pressed for time, and its 2,000 recipes look delicious. *Grolier Interactive, 203/797-3530, www.grolier.com; $30.*

**10 Castle Explorer** ★★★/6.9
This beautiful but slow CD lets you explore a medieval castle. *DK Multimedia, 440/572-0725, www.dk.com; $30.*

# IS THIS JAZ OR THE *hustle?*

Once you get past the cute name and trendy packaging, the only thing Jaz® users have left is a thinner wallet. Good thing there's DynaMO® 640 removable storage from Fujitsu. DynaMO 640 is much more durable because it's magneto-optical (unlike Jaz). It lets you save your work on different media capacities ranging from 128MB to 640MB (unlike Jaz). You get free tech support (unlike Jaz). And it's less than half the cost of Jaz media,* with a 640MB cartridge going for only $25. (Bye-bye Jaz.) There's also our No Excuses™ policy: Our promise that in the unlikely event your drive fails within warranty period, you'll get a replacement drive in two business days. For more details, without the hustle, call, or visit our website.

(800) 462-0273 www.fcpa.com

©1997 Fujitsu Computer Products of America. DynaMO is a registered trademark and No Excuses is a trademark of Fujitsu Computer Products of America, Inc. All rights reserved. Jaz is a registered trademark of Iomega Corp. * PC Magazine Online 6/12/97.

**Circle 202 on reader service card**

## GIMME FIVE FREE

*Get a free 3.2 gigabyte 5-pack of media when you buy a DynaMO 640 before Jan. 31, 1998.*

*For all the details, call (800) 462-0273 or visit www.fcpa.com.*

FUJITSU

# Jack Nicklaus® 4

"10 out of 10"
*"Jack Nicklaus 4 is arguably the best golf sim ever."*
Boot

"★★★★★"
*"An absolute model of perfection. Graphically meets or exceeds anything on the market, including Links LS.®"*
Computer Gaming World

- **Stunningly Gorgeous**
  Graphics so detailed they look like photos.
- **Complete Course Designer**
  Design your own courses. Or, import any of the hundreds available on the web.
- **Most Realistic Golf Game Ever**
  Highly-accurate ball physics, multiple swing meters, new green reading tools and more!

Featuring **5** Jack Nicklaus designed courses:
Colleton River Plantation • Country Club of the South • Muirfield Village
Cabo del Sol • Winding Springs • *Includes 90 holes.*

Beautiful high speed graphics, a true physics model, more realistic swing meters, better putting and unlimited camera positions.

Intensity control lets you shape shots with club selection and power.

Use the powerful designer to create your own masterpieces or play courses created by others.

ACCOLADE
Jack Nicklaus Productions
Eclipse
Swedish

Available at COMPUTER City SUPERCENTER

800-229-2714
Call for a free catalog or visit our website at www.wizworks.com

MacSoft®
An Affiliate of GT Interactive Software
2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

Jack Nicklaus and the Golden Bear symbol are registered trademarks of Golden Bear International. Accolade is a trademark of Accolade, Inc. Apple, Macintosh, and MacOS are registered trademarks of Apple Computer, Inc. All other product names are of their respective owners. Produced in association with Jack Nicklaus Productions, Inc. Developed by Eclipse Entertainment. Published under license by Accolade, Inc. ©1997 Accolade, Inc. All rights reserved.

Circle 40 on reader service card

by Allyson Bates

# Bargain Systems

## BUY THE BEST MAC UNDER $2,000

AT THE HEIGHT OF THE holiday season, more than a dozen new Mac models are available for less than $2,000 each—and at those prices, even Scrooge himself wouldn't be able to resist getting a new Mac right now. Whether you're shopping for loved ones or searching for an addition for your office, there's a way to find the perfect Macintosh without breaking your budget.

### Make a List

Buying a new computer can be pretty intimidating. Even power users don't have to think about such things as CPU clock speed, Level 2 cache, and bus speed very often. But you'll need to know what to look for inside the case of a low-cost Macintosh if you want to get the best one for your money.

First decide how much you want to spend and who will be using the new machine. Whether you're buying a Macintosh for a rabid game player, your grandmother, or your own small business, you will need to find the system that best fits the job.

Fortunately, you have plenty of choices. Apple Computer and Umax Computer offer a whopping 13 Mac models for less than $2,000 each. (For a complete list of the features those models offer, check out the table, "A Budget's Best Friend: 13 Macs Under $2,000.") And if you hurry, your selection won't be limited to those two companies—you can also look for closeout systems from companies leaving the Mac-clone market, such as APS Technologies (813/483-1600, www.apstech.com), Motorola Computer Group (800/759-1107, www.mot.com/starmax/), and Power Computing (512/388-6868, www.powercc.com).

### All the Trimmings

Despite what you may have heard, a computer's speed isn't dictated exclusively by the speed of its CPU. It's influenced by a combination of several interdependent factors: the processor type and speed, the amount of RAM installed, bus speed, cache, and video RAM. Because a chain is only as strong as its weakest link, you should carefully balance these categories.

**CPU Type** When it comes to low-cost Macs, two CPUs prevail: the PowerPC 603e and 604e. Most of the low-cost Macs are 603e-based, but if you stumble across a good bargain on a 604e-based Mac, such as Umax's $1,795 SuperMac J700/180, you should snap it up. According to Macworld Lab tests, systems based on the 604e are usually 30 percent *faster* than 603e-based Macs running at the same clock speed. Apple's latest low-price system, the $1,999 Power Mac G3 (see "Apple's Next-Generation Systems," in this issue), uses the PowerPC 750 CPU—an even speedier CPU than the 604e.

**CPU Clock Speed** Although it *is* important, clock speed, which is measured in megahertz (MHz), is one of the most overrated indicators of computer speed. For example, a 250MHz CPU is typically 5 to 10 percent faster than a 225MHz CPU—and costs roughly $400 more. That increase may be a big deal for artists trying to push Adobe Photoshop to its limits, but for Finder operations and for most general applications, you won't notice the difference.

**Bus Speed** Since the Mac's system bus regulates the speed at which the CPU communicates with the rest of the system, having a fast CPU with a slow bus is a little like driving a Ferrari in a traffic jam. Avoid Macs with slower, 40MHz buses if possible.

**Cache** Together, CPU

clock speed, bus speed, and Level 2 cache are the three most important factors determining how fast your Mac runs. The cache ensures that the CPU isn't forced to stop doing work while it's waiting for the bus to catch up with it. Because most people don't realize the importance of cache, many low-cost systems come with *none*. Insist on a cache of at least 256K. And if you're lucky, you'll find a system such as the $1,795 Umax SuperMac C600x/240, which comes with a hefty 1MB cache.

**RAM** When it comes to memory, too much is never enough. These days, RAM is dirt-cheap (approximately $60 for 16MB), so leave room in your budget for extra RAM. Most budget Macs are configured with a mere 16MB of RAM. If you plan to use your computer only for e-mail or other basic tasks, you can get by with that much, but if you're hunting for a bargain gaming computer or want to do entry-level desktop publishing, RAM is a good place to splurge. We recommend 32MB to 48MB for most gamers and business users.

**VRAM** Video memory, or VRAM, is important for all computer users, but it's especially important for gamers and users of graphics-oriented programs, since it lets a monitor display greater detail and more colors and speeds up screen drawing. When you buy your new Mac, request at least 2MB of VRAM—and make sure the VRAM can be increased to 4MB. Most economy systems, including most of Umax's SuperMac C600 and C500 series, come with only 1MB of VRAM.

**Hard Drive** Every Mac we looked at has at least a 1.2GB hard drive, but you can never have too much storage. The good news is that 2GB drives are cheap and higher-capacity drives aren't a lot more expensive. Your software collection and files will only grow with time, especially if you're going to store large graphics files or install massive CD-ROM games on your hard disk. Our advice: Get plenty of storage now—preferably 2GB to

## A BUDGET'S BEST FRIEND: 13 MACS UNDER $2,000

| | | | | | SPEED-RELATED FEATURES | | | | MEMORY | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Company | Product | Star Rating[A] | Company's Estimated Price | Speed-Mark[B] | CPU Type | CPU Speed | L2 Cache | Bus Speed | RAM | Free RAM Slots | VRAM (std./max.) |
| Apple Computer 408/996-1010 www.apple.com | Power Macintosh 4400/200 | ★★★/5.5 | $1,500 | 1.9 | 603e | 200MHz | 256K | 40MHz | 16MB | 3 | 1MB/1MB |
| | Power Macintosh 5500/225 | ★★★/6.7 | $2,000 | 2.1 | 603e | 225MHz | 256K | 50MHz | 32MB | 0 | 1MB/1MB |
| | Power Macintosh 6500/225 | ★★★/6.1 | $1,600 | 2.1 | 603e | 225MHz | 256K | 50MHz | 32MB | 2 | 2MB/2MB |
| | Power Macintosh 6500/250 | ★★★/6.0 | $2,000 | 2.2 | 603e | 250MHz | 256K | 50MHz | 48MB | 2 | 2MB/2MB |
| | Power Macintosh G3 | NA[C] | $1,999 | 4.0[C] | 750 | 233MHz | 512K | 66MHz | 32MB | 2 | 2MB/6MB |
| Umax Computer 510/226-688 www.supermac.com | SuperMac C500LT/200 | ★★★/5.4 | $995 | 1.7 | 603e | 200MHz | 256K | 40MHz | 16MB | 2 | 1MB/1MB |
| | SuperMac C500/240 | NA[C] | $1,295 | 1.8[C] | 603e | 240MHz | 256K | 40MHz | 24MB | 2 | 1MB/1MB |
| | SuperMac C600/200 | ★★★/5.1 | $1,195 | 1.8 | 603e | 200MHz | 256K | 40MHz | 16MB | 2 | 1MB/1MB |
| | SuperMac C600LT/240 | ★★★/5.0 | $1,395 | 1.9 | 603e | 240MHz | 256K | 40MHz | 24MB | 2 | 1MB/1MB |
| | SuperMac C600x/240 | ★★★/6.0 | $1,795 | 2.4 | 603e | 240MHz | 1MB | 80MHz[F] | 32MB | 2 | 1MB/1MB |
| | SuperMac C600x/280 | ★★★/6.2 | $1,995 | 2.5 | 603e | 280MHz | 1MB | 80MHz[F] | 32MB | 2 | 2MB/2MB |
| | SuperMac J700/180 | ★★★/5.6 | $1,795 | 2.7 | 604e | 180MHz | 512K | 51.2MHz[F] | 24MB | 8 | 2MB/4MB |
| | SuperMac J700/233 | NA[C] | $1,995 | 2.7[C] | 604e | 233MHz | 512K | 40MHz | 24MB | 8 | 4MB/8MB |

● = yes; NA = not available [A] Based on features, implementation, innovation, performance, reliability, ease of use, and value. [B] Macworld Lab's SpeedMark test compares different systems' real-

$100 more. [E] Available with Ethernet for $100 more. [F] Cache-doubler technology installed to increase bus speed.

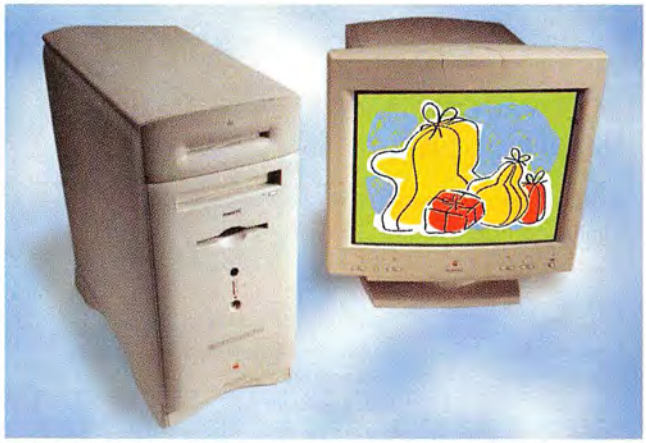
4GB—to avoid having to swap drives in the future.

## Stocking Stuffers

When you've taken care of what's inside your Mac, you're still not done—in many ways, the peripherals you add to your system are just as important as what's inside.

**Monitor** Without a monitor, your new Mac won't do anything but collect dust. Unfortunately, most Macs don't come with this must-have peripheral, so you'll need to budget an additional $300 for a decent 15-inch monitor. Although a 17-inch display (which costs about $700) expands your viewing capabilities (and is especially appealing to gamers and publishers), most business and home users will find a 15-inch monitor perfectly usable. No matter what size you choose, check out "17-Inch Screen Stars," July 1997, for more details about what you should look for in a monitor.

**CD-ROM Drive** These days, all computers have preinstalled CD-ROM drives. Although



**Software Star** A good price, speedy CPU and bus, and stellar software bundle highlight the Apple Power Macintosh 6500/225.

| STORAGE | | | EXPANSION | | NETWORK | | COMMENTS | | |
|---|---|---|---|---|---|---|---|---|---|
| Hard Drive | CD-ROM Drive | Zip Drive | Case | Free PCI Slots | Modem | Ethernet | Pros | Cons | Ideal Users |
| 2GB | 8× | | desktop | 2 | | ● | Good price, 2 PCI slots, upgradable VRAM, 3 RAM slots | Proprietary DIMM slots, not enough RAM, slow bus | Small businesses, home offices |
| GB | 12× | | all-in-one | 0 | | ● | Built-in monitor, speedy | No PCI slots, not much VRAM, sold only to education market | Schools, students |
| .5GB | 12× | ● | tower | 2 | | ● | Affordable, speedy, fast bus, great software bundle | Accepts only 7-inch PCI cards, VRAM not expandable | Home offices, cross-platform users, publishers |
| GB | 12× | ● | tower | 2 | | ● | Lots of RAM, high-capacity hard drive, speedy, great software bundle | Pricey, accepts only 7-inch PCI cards, VRAM not expandable | Small businesses, Web surfers |
| GB | 24× | | desktop | 3 | ● | ● | Extremely fast 750 CPU, expandable | Price may be too high for some | Power users on a budget |
| GB | 8× | | desktop | 2 | [D] | [D] | High-capacity hard drive, good price | No built-in connectivity, slow bus | Do-it-yourselfers who want a base system |
| 3GB | 24× | | desktop | 2 | | [E] | High-capacity hard drive, good price | VRAM not expandable, slow bus | Do-it-yourselfers who want a base system, small businesses |
| 2GB | 8× | | tower | 3 | ● | | Good price | Not much RAM or VRAM, low-capacity hard drive, slow bus | E-mail users, students, infrequent users |
| GB | 12× | | tower | 3 | ● | | Good value | Not much VRAM, VRAM not expandable, slow bus | Home offices, e-mail users, students |
| GB | 12× | | tower | 3 | ● | ● | Speedy bus, large cache, high-capacity hard drive | Not much VRAM, VRAM not expandable | Small businesses, home offices, publishers, Web surfers |
| GB | 12× | | tower | 3 | ● | ● | Speedy bus, fast CPU, large cache | Pricey | Small businesses, home offices, gamers, publishers |
| 1GB | 8× | | desktop | 4 | | ● | Fast 604e CPU, fast bus, free RAM and PCI slots, upgradable VRAM | Not as fast as comparably priced system with 750 CPU | Gamers, publishers |
| GB | 24× | | desktop | 3 | ● | ● | Fast 604e CPU, fast bus, free RAM and PCI slots, upgradable VRAM | Not as fast as comparably priced system with 750 CPU | Gamers, publishers |

*world application performance. Scores are relative to that of an Apple Power Macintosh 7100/80, which has a SpeedMark score of 1.0. [C] Preproduction model. [D] Available with Ethernet or a modem for*

## A LOW-COST–MAC SHOPPING LIST

Your quick-reference guide to Mac options

| | |
|---|---|
| **CPU type** | PowerPC 603e; 604e or 750 if you can |
| **Processor clock speed (MHz)** | 180MHz or faster; don't pay a premium for a small speed bump |
| **Bus speed** | faster than 40MHz |
| **Cache** | at least 256K |
| **RAM** | 24MB or 32MB |
| **VRAM** | 2MB, preferably upgradable to 4MB |
| **Hard drive** | at least 1.2GB; consider getting 2GB |
| **Monitor** | 15-inch; 17-inch if you're a gamer or publisher |
| **CD-ROM drive** | 8×; don't pay a premium for a faster drive |
| **Printer** | none; a color ink-jet if you really need to print |
| **PCI slots** | at least one |
| **Free RAM slots** | at least one |

most Macs are sold with an 8× CD-ROM drive, don't be fooled by the speed ratings. The cost of upgrading to a faster CD-ROM drive just isn't worth it—the speed differences aren't particularly noticeable.

**Communications** Some computers include built-in communications capabilities, such as a modem, Ethernet networking, or both. If you plan to physically link your computer to a network, you can either buy a Mac with built-in Ethernet or add it via an expansion card (about $100). If your computer is going to live by itself and communicate only with a printer, you don't need Ethernet at all. If you're planning to use your Mac for connecting to the Internet or an online service, be sure to get a 28.8-Kbps or faster modem. Unless you're an Internet power user, you probably don't need to pay extra for a 56-Kbps modem.

**Software Packages** Consider the quality and quantity of a system's software bundle if you're looking to beef up your software library. First-time buyers should pay special attention to which programs are bundled, so they can be up and running as soon as they plug in their Macs.

**Printer** If you're strapped for cash, don't buy a printer right away. In the age of e-mail and electronic correspondence, generating hard copy may not be necessary. If you do need to print, consider getting a color ink-jet printer (about $300). For more detailed information about printers, see "Print It," November 1997.

### One to Grow On

At this stage, your new computer system is almost complete—for now. But in the future, when you've got more money to spend, you may want to expand your system. Be careful not to paint yourself into a corner before the computer is even out of the box.

**Form Factor** Deciding between a tower and a desktop Mac depends on how you want to configure your workspace and how much expandability you require. Tower systems are usually more expandable and can be stowed under a desk. Desktop systems generally offer fewer upgrade opportunities, including fewer free RAM and PCI slots. A desktop Mac fits neatly under a monitor and often acts as an excellent monitor stand. (If you buy a tower Macintosh, be certain to buy a monitor stand as well.)

**PCI Slots** The number of free PCI slots dictates how many add-ons your Mac can accommodate. Be wary of a system with no available slots—it'll be a nightmare to upgrade. And don't confuse the total number of slots with the number of free slots; some vendors fill up every slot with video cards and other options.

**RAM Expansion** It's wise to have free memory slots for adding more RAM to your Mac in the future. Don't buy a computer with no free RAM slots, because then you'll have to replace your existing RAM instead of simply adding to what you've already got.

### Santa's Helpers

OK, now you know how to get a Mac that suits your needs—and your budget. Next you need to find somewhere to go shopping.

Right now Apple and Umax don't sell directly to customers—to buy one of their systems, you have to go through an authorized dealer. If you're not having much luck at resellers such as CompUSA or MacFrugal's, browse some catalogs. In many cases, you'll find an even better deal if you purchase a Mac via mail-order. And it's always smart to check out vendors' Web sites for bargains on systems no longer available retail.

Another affordable possibility for holiday shoppers is to check out marked-down inventory from such vendors as Motorola and Power Computing. Substantial price drops on current lines make these computers affordable—but inventory won't be replenished, so if the shelves are empty, you're out of luck.

### The Last Word

You wouldn't buy your dad an ugly tie for the holidays, and you wouldn't buy your mom a rock-hard fruitcake. Likewise, don't buy a Mac that won't serve your family well a year from now. With your wish list in hand (for quick reference, be sure to take our "Low-Cost–Mac Shopping List" along with you when you head out to go shopping), you'll be sure to keep yourself and your loved ones happy this holiday season. m

Associate editor ALLYSON BATES finds time between shopping sprees to cover Mac systems for *Macworld*.

### EDITORS' CHOICE

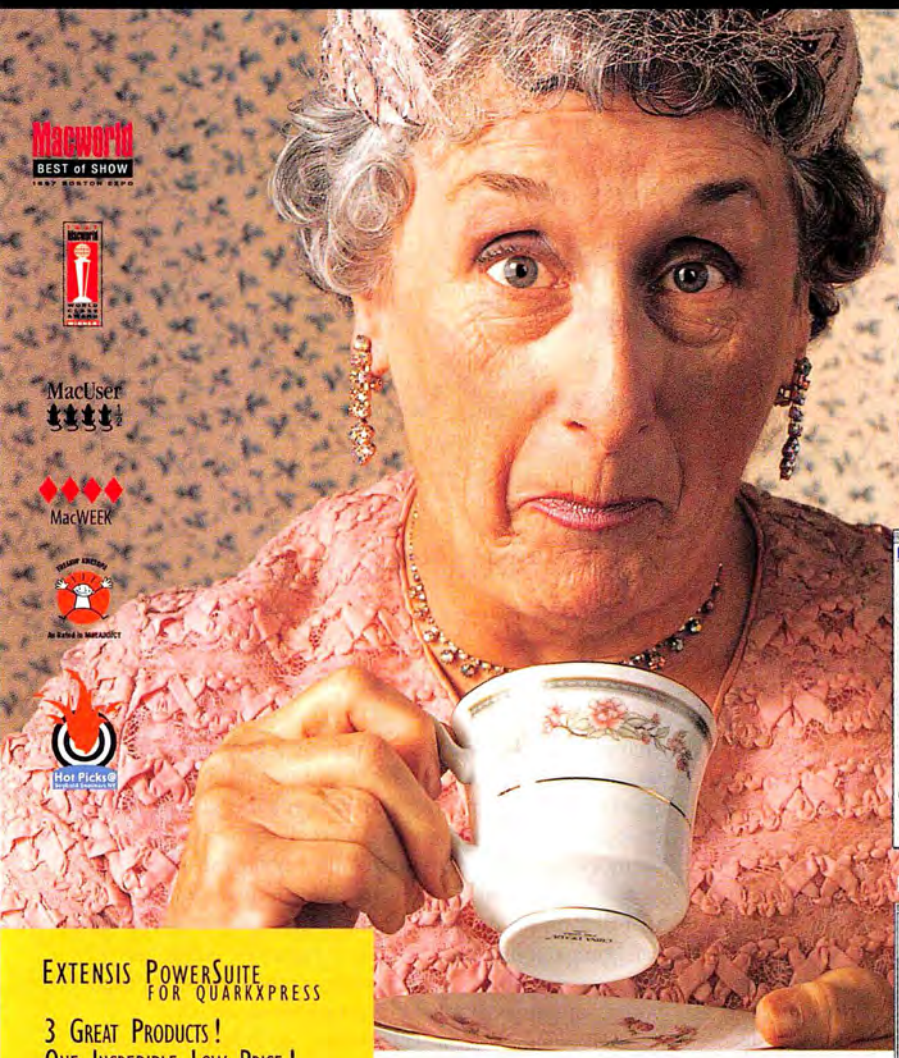
With the imminent arrival of Apple's new $1,999 Power Macintosh G3 (see "Apple's Next-Generation Systems," in this issue), we can't currently recommend any particular low-cost Mac. If the G3 is as speedy as our preliminary tests indicate, the new Power Mac willl clearly be the best Mac you can buy for less than $2,000.

However, if the presence of machines that use the G3 leads to big price cuts, the other Macs we looked at might become even greater finds for bargain-hunters. Apple's Power Macintosh 6500/225 and Umax's SuperMac J700/180 are solid systems that would be great values if their prices were to drop in reaction to the introduction of the Power Mac G3.

REAL PRODUCTS REAL RATINGS

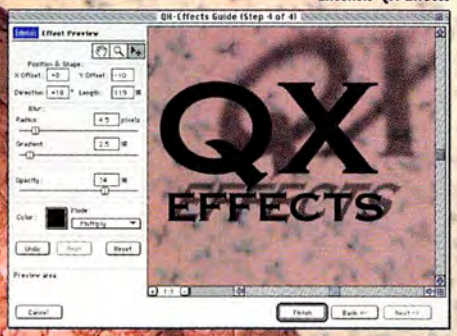
**Reviews you can trust** Unlike other publications, *Macworld* rates only final shipping products, not prototypes. What we review is what you can actually buy.

# DO IT IN A PLACE YOU'VE NEVER DONE IT BEFORE.



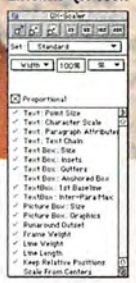

## SLASH DESIGN TIME, CREATE STUNNING EFFECTS AND PREFLIGHT RIGHT IN QUARKXPRESS®

Extensis QX-Effects




Extensis Preflight Designer

Extensis QX-Tools



**EXTENSIS POWERSUITE FOR QUARKXPRESS**

**3 GREAT PRODUCTS! ONE INCREDIBLE LOW PRICE!**

Now you can get three award-winning Extensis productivity software packages for QuarkXPress for one incredibly low price.

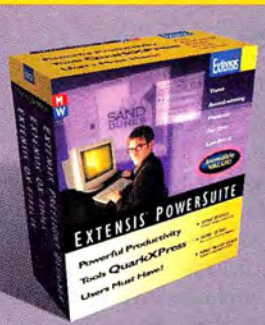
**The Extensis PowerSuite for QuarkXPress includes:**

**Extensis QX-Tools®** — 15 time-saving tools that slash through QuarkXPress projects. With QX-Tools you can scale multiple objects, use layers, apply character styles, use a powerful search and replace engine and much more.

**Extensis QX-Effects™** — Quickly create professional cast and drop shadows, bevels and glows right in QuarkXPress. Interactively preview and custom design each effect. QX-Effects intelligently determines the optimal resolution and color mode so your designs print perfectly every time.

**Preflight Designer™** — The easy-to-use advanced preflight solution for designers. Intelligently inspect your QuarkXPress files and collect every file, font and image you need for perfect printing. Preflight Designer kills output problems before they cost you time and money.

So do it in a place you've never done it before, in a way you've never done it. And, save like never before with the Extensis PowerSuite for QuarkXPress.




**EXTENSIS POWERSUITE FOR QUARKXPRESS**

**MACINTOSH $199.95**

**1.800.796.9798**

Extensis

DOWNLOAD FREE TRIAL VERSIONS

http://www.extensis.com

**Circle 13 on reader service card**

SOURCE CODE: 1087

Extensis, the Extensis logo and QX-Effects, QX-Tools and Preflight Designer are trademarks of Extensis Corporation. QuarkXPress is a trademark of Quark Incorporated. Macintosh is a registered trademark and Mac is a trademark of Apple Computer Inc. All other trademarks are property of their

# Irresistible Extras

## TREAT YOUR FRIENDS (OR YOURSELF!)

EVEN IF YOU CAN'T AFFORD THE EXTRAVAGANT GIFT of a new Mac, there's still a whole sackful of ways to brighten the holiday season of the Mac fanatics on your list. *Macworld*'s elves braved the holiday weather searching for the coolest gifts, so you can spend your time decking the halls of your home office with gadgets and goodies, transforming it into a wired winter wonderland. After the other presents have made their ways deep into drawers and to the back of the cupboard, these gifts will delight your favorite Mac lovers well into the new year.

### Groovy Ghoulies

AWESOME ANIMATED MONSTER MAKER ★★★/5.0

What's green and red and has six legs? Beats me . . . but I just built one, using the Awesome Animated Monster Maker. This CD-ROM lets kids ages 3 and up create the monster of their dreams (or nightmares) by assembling wiggling pieces, using a "color bath" to select its color scheme, and endowing their creation with one of six personalities via a brain transplant. It can take a while to get the hang of the way the laboratory works, but its proprietor—Dr. Lizardlips—and other critters keep up a wisecracking banter (poor sound quality can make them hard to understand, though). For kids with good reading skills, printed tips appear while different sections load. With your monster complete, you tour a 14-room palace, accessorizing your creature with clothing; changing its body parts; assigning it new personalities, moods, and animated actions; and playing games. Game rooms such as Part Drop and Judo require good hand-eye coordination; Spaghetti & Meatball's Kitchen works on memory, spelling, and typing skills. My favorite room is the Sewer, where your monster watches an interactive concert; you click on the musicians to make them play their riffs. You can print your monsters in full-color glory (or is that "gory"?), make coloring-book versions with just the outlines, or export your creations as graphic files.—KATHERINE ULRICH

*Houghton Mifflin Interactive, 617/503-4800, www.hminet.com; $35.*

### An Instant New You—Sort Of

COSMOPOLITAN VIRTUAL MAKEOVER ★★/3.1

Oh, the girlish glee! At last, a CD-ROM that speaks to the frivolous and frolicsome female in all of us and offers a way to experiment with hair and makeup without lasting consequences. Unfortunately, after wrestling with Cosmopolitan Virtual Makeover, you'll want to pull your hair out, not restyle it. Too bad, because it's based on a great premise: You import a digital photo of yourself and try out dozens of different haircuts, hair colors, and eye colors. You can fix your face with virtual foundation, eye shadow, and lipstick in real Cover Girl shades. You can even add beauty marks and tweeze your eyebrows into pixel-perfect arches. Alas, Virtual Makeover is painfully, horribly slow; your hair may go gray before you get to see yourself as a virtual blond. Other deterrents to girlish fun include cheesy music and the program's tendency to choke on imported photos. When all is said and done, it's just

no replacement for being invited to a *Ricki Lake* makeover special.—BROOKE WHEELER

*SegaSoft, 888/734-2763, www.virtualmakeover.com; $40.*

## Countdown to Christmas

SANTAZIA ★★★/5.4

When I was a kid, advent calendars helped ease the countdown to Christmas, rewarding my patience each day with a new picture. Santazia, a computerized version of the old favorite, rewards players with daily 3-D animations and games. Santa, who narrates in your choice of 10 languages, needs you to find 24 enchanted objects in his castle to undo the hex that threatens Christmas deliveries. QuickTime VR lets you smoothly navigate the castle rooms, and sounds—such as creaking doors, dripping water, and crackling fires—mark your movements and location. Once located, the enchanted Old World–style objects come to life with contemporary flair: tabletop trees play soccer with an ornament, candy canes slink like charmed snakes, and rotund ornaments tire after a tribal jive. Individual games (which include memory, matching, and scenic

**Santazia** By Christmas Eve, you'll uncover 24 animated objects and their accompanying games.

puzzles) offer no spoken or written instructions, but figuring them out adds to the challenge. Santazia doesn't really make Christmas come quicker, but it makes the wait more fun.—ELIZABETH DOUGHERTY

*Caspari, 203/888-1100, www.metronome.dk/santazia/; $30.*

## As the World Turns

3D ATLAS 98 ★★★/6.3

If anyone on your shopping list spends hours spinning a globe or thumbing through an almanac, 3D Atlas 98 is sure to be a year-round favorite. With this innovative CD-ROM, it's easy to make a chart of two statistics, such as comparing the number of goats in a country and its per capita gross national product. You can view an image of a globe in physical relief or with country borders indicated, adding cities, mountains, rivers, and other points of interest as you choose. Most statistics are current as of 1994, and borders and country names are up-to-date—listing

**3D Atlas 98** This innovative CD-ROM takes countries' statistics and maps well beyond the two-dimensional world of reference books.

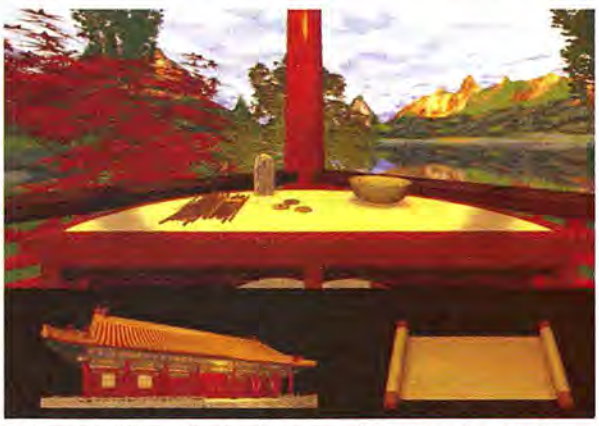
Congo-Kinshasa instead of the recently out-of-date Zaire, for example. Web integration provides links to sites related to a topic or country, and QuickTime movies illustrate countries' historical events, as well as geological, environmental, and climatic features. Pleasant background music and voice-overs accompany many of the CD-ROM's screens. Whether you've got wanderlust or just want to know more about your world, this CD-ROM will do the trick.—KEITH MITCHELL

*Creative Wonders, 650/482-2300, www.creativewonders.com; $30.*

## No Mere Magic 8-Ball

MULTIMEDIA I CHING ★★★★/7.0

This disc serves up a gracious and comprehensive course in the ancient oracular system known as the Book of Changes. The texts conjoining the I Ching's 64 hexagrams are at once precise and poetic, pithy and prodigious, and have provided Confucian and Taoist scholars with cosmic insights for three millennia. Virtual seekers will likely prostrate themselves before Multimedia I Ching's sacred ambience of warmly lighted reading rooms and sweet, caressing music. After you place a question before the Oracle, the



**Multimedia I Ching** The Oracle Pavilion offers a tranquil setting for you to consult the Book of Changes.

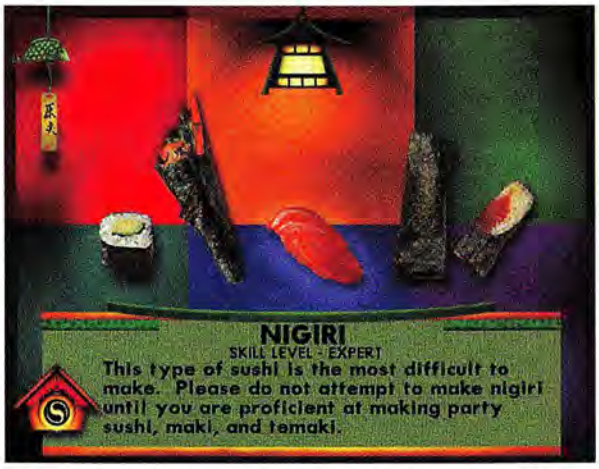
disc prompts you to select a divining method for building a hexagram. (The coin throw is most hypnotic.) The reading screens are especially easy on the eyes and contain full texts of the images and interpretations behind each hexagram. Reading rooms offer a wealth of other information, including voice-recorded lessons in pronunciation, and all aspects of this quiet refuge—its sound, music, and imagery—can be easily customized.—MARK BAARD

*Princeton University Press, 800/777-4726, www.pup.princeton.edu; $50.*

## Roll with It

EXOTIC SUSHI ★★★★/7.7

Whether you take sushi seriously or pop tekamaki by the handful, the Exotic Sushi CD-ROM makes a perfect gift. It teaches you how to prepare four types of sushi, starting with party rolls and eventually helping you graduate to the most difficult type, nigiri. Even more important than the preparation directions are the tips on enjoying sushi. You'll




**Exotic Sushi** In addition to teaching you sushi-bar etiquette, this CD illustrates the construction of edible masterpieces.

learn insider information such as locating the tastiest part of the yellowtail and determining which sushi is ruined by dipping in soy sauce. The CD-ROM's video demonstrations make it easy to learn the customs they don't teach you at the local sushi bar.—NANCY PETERSON

*Bandai Digital Entertainment, 714/816-9700, www.bdec.com; $30.*

## Make It and Bake It

SUPER JEWELRY KIT ★★★★/7.1

With a little help from your Mac and your printer (and your oven), you can design and create custom jewelry. Super Jewelry Kit comes packed with all the supplies needed to make funky earrings, cool necklaces, beaded bracelets, and wildly colorful pins. Its animated interface helps you select pieces, add hues and patterns, and even type personal messages. Within minutes, you can transform a simple earring design into a unique creation of psychedelic swirls, floral decorations, and checkered patterns.

**Super Jewelry Kit** With an oven and a color printer, you can use your Mac to design and create one-of-a-kind wearable art.

If you have a scanner or a digital camera handy, you can easily convert your favorite photo into a beautiful brooch. If you get stuck, Max the Multimedia Mutt will talk you through each step, and once your design is complete, you simply print the image to special print-and-shrink paper, cut out your masterpiece, and pop it into the oven. This fun kit eats up a monstrous 14MB of RAM, and although Super Jewelry Kit is intended for ages 8 and up, it requires some adult supervision for threading the special paper into the printer and using the oven.—ALLYSON BATES

*Print Paks, 503/295-6564, www.printpaks.com; $25.*

## Smoke 'Em If You've Got 'Em

THE CIGAR COMPANION INTERACTIVE 2.0 ★★★/6.0

Ask any cigar smokers what to drop in their stockings, and you'll probably get the names of a few esoteric (and expensive) stogies, a plea for silver-plated accessories, or a wistful wish for a humidor. If you don't want to encourage the actual *smoking* part of the hobby, your favorite puffer can still peruse text, audio, and QuickTime movies about cigars, from the history of tobacco and how it's grown to guided tours of a modern cigar factory and the assembly process. The Cigar Companion features a database of the most-pop-

**The Cigar Companion Interactive** Cutting and lighting tutorials help you learn the esoteric skills of a true aficionado.

ular brands and lets you create your own dossier of cigars you've smoked. The database also contains basic information about the character of the various cigars, but don't buy the disc expecting thorough reviews. If you can't bear the thought of a subscription to *Cigar Aficionado*, here's a gift the cigar smoker in your life can enjoy . . . without stinking up the house.—CAMERON CROTTY

*Inroads Interactive, 303/444-0632, www.inroadsint.com; $20.*

## Up, Up, and Away

VIRTUAL WINGS ★★★★/8.2

By modeling the French Aerospatiale Tobago training aircraft, and including actual Jeppesen airport approach and facilities diagrams, Virtual Wings brings low-cost, realistic flight to the Mac, accurately simulating both instrument and visual flight to hundreds of U.S. and Italian airports. It renders 28 geographic locales, optionally augmented by QuickDraw 3D accelerator cards, such as Apple's QD3D Accelerator or ATI's Xclaim VR. For realistic training conditions, the program depicts haze and surface textures, city

**Virtual Wings** This unique flight simulator lets you fly a realistic model of a general-aviation aircraft.

lights at night, highway traffic, cloud conditions, gusty winds, and wind shear. An instructor's console lets you simulate partial and full instrument failures and adjust weather conditions. Virtual Wings' out-the-window view is stunningly beautiful, all instrument indications are very realistic, and the program's library of preconfigured settings lets you experience a range of flight situations. Although the simulator is designed for serious pilots, Virtual Wings' clear user guide explains aircraft operation well enough that anyone can enjoy the program. Combined with an external flight control stick—such as one from CH Products, ThrustMaster, or Gravis—it's sure to please the heavenly-minded on your holiday gift list.—MEL BECKMAN

*CAT III Systems, 800/322-8866, www.cat3.com; $119.*

## Uncle Jerry's Disc

THE PSYCHEDELIC BUS OF DEAD KNOWLEDGE ★★★/6.5

How many musicians were involved in the making of the Grateful Dead studio album *Terrapin Station*? What type of bird is mentioned in "Sugar Magnolia"? If you know the answers, chances are you're a Deadhead and that you'll enjoy The Psychedelic Bus of Dead Knowledge, a CD-ROM trivia game. The questions don't focus exclusively on the music but also pertain to the band's friends and influences. Users might be asked to listen to an audio clip and determine which live or studio album it hails from, or pinpoint which Ken Kesey essay includes references to the Dead. Fans will love the audio clips (many of which come from the band's greatest live performances), and the trivia is interesting and well researched. The QuickTime video segments are grainy, and the CD-ROM just isn't slick enough to merit its price, but tour-deprived Deadheads may find the opportunity to flex their band knowledge, wax nostalgic, and do the signature Deadhead bop to a great live version of "Brokedown Palace" well worth the price.—KRISTIN BALLEISEN

*Cosmic Light Computing, 804/823-7766, www.psychedelicbus.com; $50.*

## Classy Case and Stylish Stylus

PALMPILOT ACCESSORIES ★★★/6.9

Many a good little geek found a Palm Computing PalmPilot (see "Top Pocket Organizers," September 1997), among the brightly wrapped packages last holiday season. If one of those lucky folks is on your list this year, you can help bring their merriment back for another season with selections from the PalmPilot accessories catalog. If a plastic stylus is just too ordinary for your favorite PDA junkie, you might favor a Cross DigitalWriter, a stylus replacement that looks just like the famous pens, available in 10-karat gold, chrome, or black lacquer. Posh luggage purveyor Dooney & Bourke offers a full line of "all-weather leather" cases specially made for the PalmPilot, from a slim, fold-over sheath to a large-format, planner-style portfolio complete with a real (paper!) notepad; all three come in your choice of black, tan, or ivy leather. Sure, there are cheaper trinkets to stuff into a stocking, but nothing's too good for your favorite PDA.—ANITA EPLER

*PalmPilot Accessories, 408/848-5604, www.palmpilot.com. DigitalWriter stylus, $30 to $65; Dooney & Bourke cases, $50 to $100.* **m**

**PalmPilot Accessories** For people who can't bear to be separated from their PDAs, these accoutrements make super gifts.

## CONSUMERS HAVE A VERY DIFFERENT ATTITUDE WHEN IT COMES TO DOING BUSINESS ON THE WEB.

Whether it stems from a sensational story heard on the nightly news or simply a natural fear of the new and unknown, consumers don't trust cyberspace to protect their privacy.

In fact, about 70% either leave a website or report false data as soon as a request for personal information is made online.

However, a study by the Boston Consulting Group shows that if the privacy policies of sites were disclosed, users would be two to three times more likely to give information and partake in Web transactions. Which would result in a doubling of consumer e-commerce from $6 billion to $12 billion by the year 2000.

So how can you earn consumer trust on the Web? Become a TRUSTe licensee. Then with just a click on your website's TRUSTe symbol, users will be able to easily access your privacy statement. The TRUSTe initiative also assures consumers that sites which use our symbol are routinely monitored to ensure displayed information is correct and complete.

To find out more about how to become a licensee, visit our website. After all, earning consumer trust is simply good business.

TRUSTe
www.truste.org

TRUSTe is an independent, non-profit, privacy initiative sponsored by:

AT&T · CyberCash · IBM · ORACLE Enabling the Information Age · MatchLogic, Inc: The Science of Digital Marketing · Lands' End · NETCOM · WIRED · NETSCAPE · TANDEM a Compaq company · InterNEX · excite

# Secrets

## Calmly Coping with File Disasters

HOW TO CURE YOUR MAC WHEN IT GETS THE DIGITAL HICCUPS

by Joseph Schorr

The other day, I realized that I prefer my Macintosh to a Windows 95 machine not because of the Mac's vastly more intuitive operating system, or its seamlessly integrated multimedia capabilities, or its beautifully refined interface, but because of the way it crashes, hangs, freezes, and otherwise misbehaves. That's right. I'm most grateful to be a Mac user not when everything on my system is humming along perfectly but when I encounter an unexpected glitch that needs fixing.

Mac magazines like this one are filled with pages of Mac-versus-Windows speed tests and price comparisons, but in my opinion, the real test should be what happens when something goes wrong—when the hard disk becomes unreadable, or the printer drivers become corrupted, or critical files get misplaced or deleted. When disaster strikes, I'd rather have a Mac, which is eminently easier to troubleshoot and fix.

Of course, I'd really rather have a system that runs flawlessly, that *never* corrupts a file and *never* quits unexpectedly. But let's face it, there isn't a computer out there—regardless of the platform—that doesn't experience its share of problems. Life with computers is inherently filled with disaster. If you want to stay productive, the key is knowing how to cope with these glitches effectively—without calling technical support or spending money on unnecessary software, hardware, or consultation fees.

Few of these glitches, though, are as disastrous as they initially seem. This column isn't meant to be a comprehensive troubleshooting guide, but here are a few of my favorite coping strategies for some of the odd little problems that could potentially ruin your workday.

### Bad-File Crisis

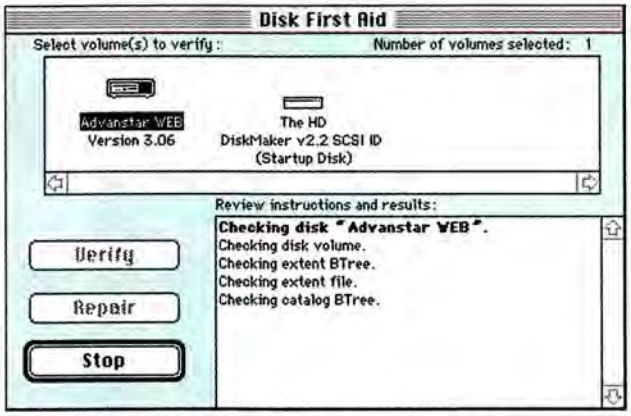
It doesn't take much for a file to go bad. One magnetically zapped bit of data can cause enough damage to render a whole file unopenable. In reality, though, most of the data trapped in a corrupted file is probably OK and can be recovered—if you can get to it. So if a file refuses to open when double-clicked, or crashes your program whenever you try to launch it, you may still be able to pry it open using a another program such as a word processor to recover text.

For example, if a QuarkXPress document won't open because of corruption, you can force it open with Microsoft Word. Launch Word, use the Open com-

*continues*

mand, and change the List Files Of Type pop-up menu to All Files. Select the QuarkXPress file, and open it. You'll see a lot of garbage, to be sure, but in the file, amid the rows of garbage characters, you'll see every word of text contained in the document. Rescue it by copying and pasting it back into QuarkXPress.

For even more-effective text recovery, use a tool such as the $29 RescueTxt, from Abbott Systems (914/747-4201, www.abbottsys.com), an indispensable utility for searching for lost text. RescueTxt reads disks directly, completely ignoring the Mac OS's file system. In other words, it sees everything on your disk—including files that you've trashed—block by block. Recovering text in this way can be tedious, but if you're desperate, RescueTxt can retrieve a name, a phone number, or a brilliantly constructed sentence that would otherwise be lost forever. (Abbott Systems' $39 CanOpener is an even more powerful text-recovery tool that has gotten me out of many a difficult situation.)




**Free First Aid** Disk First Aid isn't a powerhouse application, but it can verify and make minor repairs on uncooperative hard disks and other storage media, including floppies and removable media.

**Breaking the Code** To reveal a file's hidden type and creator codes, drag the file to the Find File window. Armed with these codes, you can use ResEdit to restore a file that's lost its identity.

## Bad-Disk Crisis

When a disk comes up as "unreadable," don't panic. Unreadable disks usually contain readable files; it's just the disk's directory information that's become scrambled. In other words, the map that the Mac uses to locate specific files on the disk is gone—or at least is mangled. Without a directory map, your Mac loses track of what files are on the disk and decides that it's unreadable.

Your first line of attack should be to run Disk First Aid, the free repair utility that came with your Macintosh (it's either on your Disk Tools disk or your system software CD-ROM). Disk First Aid isn't as powerful as other, commercial disk-repair programs, but it can repair minor directory glitches and, at the very least, let you know if a more serious repair is necessary (see "Free First Aid"). To fix major glitches, you might need a program such as Symantec's Norton Utilities 3.5 ($99; 310/453-4600, www.symantec.com), which can fix disks beset with even major problems. (It can also retrieve files from disks that are so mangled that they can't be fixed.)

If your problem disk is a floppy, the solution may not even require a repair utility. Try ejecting the disk and reinserting it several times; simply reinserting the disk may take care of the problem. If not, take a close look at the disk. Is the metal shutter even slightly bent or out of line or a bit sticky? That's enough to cause the Mac to reject the disk. The solution? Just rip the metal shutter off and pop the disk into your Mac without it; it'll work just fine. Of course, the mangled floppy, with its Mylar platter exposed, can no longer be used for reliable storage, so copy the files you need from the disk and then get rid of it. You've lost a floppy but saved your files—and possibly your workday.

## Unknown-Application Crisis

You've probably seen this: A standard document, such as a Microsoft Excel file, suddenly stops looking like an Excel file in the Finder, its original icon replaced with a generic document icon. When you try to launch this file, you don't get Excel; you get a message that says the document could not be opened because the application program that created it could not be found. Or the Mac launches some other program completely—one that's not able to open the file.

What's going on? The file is suffering from type- and creator-code amnesia. Every file on your Mac is identified by a four-character type code and a four-character creator code. These hidden codes tell the Mac what kind of file it is—whether plain text, PICT file, or QuickTime movie—and what program was used to create it. When these codes get zapped, as they sometimes do in a crash, a file essentially forgets what it is and where it came from.

There are a couple of ways to restore these codes. First, if a number of files on your machine have turned generic, try rebuilding the desktop. The desktop is the Mac's internal database that keeps track of all the files on your system and the icons that represent them. To rebuild the desktop, hold down the ⌘ and Option keys while restarting your Mac.

To fix type and creator codes on individual files, you can use ResEdit, Apple's free resource-editing program. Launch ResEdit, and then use the Get File/Folder Info command from the File menu to open the afflicted file. Type the correct codes in the Type and Creator fields, and then save the file. To be safe, it's a good idea to try this ResEdit solution on a copy of the file. If all goes well, you can throw away the corrupted original.

If you don't know the correct codes, first use ResEdit to open a normal file of the same type as the one you're trying to fix; you'll be able to see the codes. (These codes are case-sensitive, so copy them exactly as you see them.) Alternatively, you can drag a normal file onto the Find File window, with File Type and Creator selected as the search criteria; the codes will appear in the appropriate fields (see "Breaking the Code"). ■

JOSEPH SCHORR is the author of *Macworld Mac Secrets*, fourth edition (IDG Books Worldwide, 1997). He handles Mac crises and near-disasters on a daily basis for a trade-magazine publisher.

# Quick Tips

## Tips, Tricks, and Shortcuts

by Lon Poole

Already filled the bottom of your Mac OS 8 desktop with pop-up-window tabs? Or got a pop-up window with a wide tab due to a long name? Steven M. Alper (Jackson Heights, New York) has discovered an easy way to shrink tabs. Grab a tab you'd like to shrink, and drag it up until its pop-up window becomes a regular window. Now position some remaining tabs about ½ to ¾ inch apart. Click on the title bar of the window you want to make a pop-up with a shrunken tab, and drag it between the two tabs until you see it change to the outline of a tab. Although this outline shows the full tab width, when you release the mouse button, the tab shrinks to fit the space available. The tab remains shrunken if you drag it to a new position along the bottom of the screen.

You can adjust the position of any tab (shrunken or full-size) relative to its window by opening the window and dragging the size boxes at the top left and right corners. The tab stays put as you move its window beneath it.

### Grandfather Patterns

**Q.** After I upgraded to Mac OS 8, my favorite desktop pattern (the yellow/green airbrush look) still adorns my desktop but is not part of the set of patterns available in the Desktop Pictures control panel. I would like to experiment with this control panel, but I don't want to lose my favorite pattern. I know this pattern exists somewhere on my PowerBook's hard disk. Where is it? And how can I store it permanently, for easy access?

MONTE ABRAMSON
*New York, New York*

**A.** Patterns that were included with system-software versions prior to Mac OS 8 are collected in a Scrapbook file named Additional Desktop Patterns on the Mac OS 8 CD-ROM (in the CD Extras folder). You can open this file in the Scrapbook by double-clicking on the file. If you have any trouble opening the file, drag it to your hard disk and double-click on it there. Then, with the Desktop Pictures control panel open, you can drag patterns (or copy and paste them) one at a time from the Scrapbook window to the Desktop Pictures window.

The pattern you want to preserve is in the Additional Desktop Patterns file, but if it weren't, you could still preserve it by using Apple's free ResEdit program (available from www.info.apple.com). You can use ResEdit to copy the current pattern from the System file or any pattern from the Desktop Patterns Prefs file, where available patterns are kept in System 7.5 through Mac OS 7.6.1. (The Desktop Patterns Pref file is moved to the Trash the first time you use the Desktop Picture control panel in Mac OS 8. If you've unknowingly deleted it, get a copy from someone still using Mac OS 7.6.1 or earlier.)

After copying a pattern with ResEdit, you can paste it into the Desktop Pictures control-panel window.

Start by making a copy of your Desktop Pattern Prefs file or your System file and opening the copy with ResEdit. In the resulting resources window, double-click on the ppat icon to display a window of patterns stored in the file. Select a pattern you want to make available in Mac OS 8, copy it, switch to the Desktop Pictures control panel, and paste. Repeat this procedure with as many patterns as you want to copy.

### Beyond SimpleText

**Q.** Often I can't open a document downloaded from the Internet because the document is too big for SimpleText. Even increasing SimpleText's memory size tenfold doesn't help. Why is this, and how can I circumvent this problem?

JOSEF HUEBER
*Ingolstadt, Bavaria, Germany*

**A.** SimpleText opens text documents with the help of the Mac OS's text-editing services, which max out at 32K.

You can open a jumbo text document by using the Open command within a word processor or text editor such as Microsoft Word, ClarisWorks, Corel WordPerfect, Nisus Writer, Tom Bender's $10 Tex-Edit Plus shareware, or Bare Bones Software's BBEdit Lite freeware. Or, drag the document icon onto the application icon in the Finder. Applications that support Macintosh Drag and

*continues*

JEFFREY HELD

Drop also let you open text documents by dragging the document icons into the open application window.

These techniques also work with Web browsers, but often with unsatisfactory results. Netscape Navigator and Communicator don't wrap lines to form paragraphs, and Microsoft Internet Explorer ignores line breaks altogether.

Another method is to change the document's creator application in order to have an application besides SimpleText open a double-clicked text document. You can do this using AutoTypers, tiny utilities that execute custom-specified actions, which you can create with the MakeAutoTyper program, included with Daniel Azuma's $10 FileTyper shareware.

A text document dragged onto a suitably configured AutoTyper icon will, for example, change into a Microsoft Word document. Thereafter, the document will open in Word when double-clicked.

A free collection of seven preconfigured AutoTypers called "Change Text Creators" is included with our online shareware offerings.

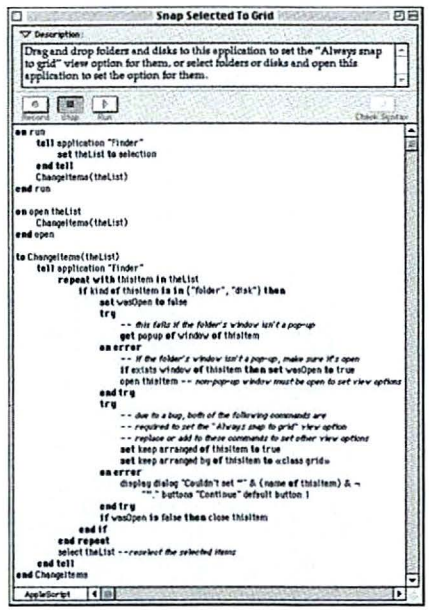
## Inherited Attributes

**Q** Is there a way to make the Always Snap to Grid option the default behavior for Mac OS 8's View Options command? So far I've had to set this option separately for each folder, which is a hassle. I definitely prefer the old behavior (the now discontinued Views control panel). Am I stuck with this new feature, or is there a way around it?

DAVE TOWNSEND
*via Macworld Online*

**A** One solution is to take advantage of the fact that copies of a folder—in this case, copies of an empty folder—have the same view options as the original folder. Create a new folder, open it, and use the View menu to set its view as you wish. Then duplicate the empty folder (⌘-D or option-drag) on the same disk as an old folder whose view options you want to change, and drag the old folder's entire contents (⌘-A to select all) to the duplicate empty folder. If you drag from an old folder that contains icons you've hand-placed in a particular order, you should open the destination folder and drag all the icons as a group to the destination folder's window rather than to the folder's icon. This preserves the icon ordering as much as possible (the view options set for the destination folder may forcibly reorder the icons). Finally, copy the name from the old, now empty folder, trash the old folder, and paste the name on the replacement folder. Repeat with a new duplicate of the empty folder for each old folder that you want to have the same view options. This procedure is still a lot of work but less so than applying multiple View commands to each old folder.

A second approach is to use the $10 shareware Finder View Settings, by Alessandro Levi Montalcini. You can use it to override all folder-specific view options in Mac OS 8 or to change the view options for a batch of folders.




**Scripted View Options** This AppleScript script applies the Always Snap to Grid option to the currently selected folder and disk windows. You can type the script into the Script Editor program and save the script in the Automated Tasks folder, setting the Kind option to Application and turning on the Never Show Startup Screen option in the Save dialog box. Then you can use the script by choosing it from the Automated Tasks submenu of the Apple menu.

Another approach is to use AppleScript to set a folder's view options, as shown in the example AppleScript applet (small application) in "Scripted View Options." In addition, Apple distributes a more complex AppleScript that copies the view options of a folder to the folders inside it and optionally to all nested folders. This applet is part of a package you can get from Apple's AppleScript Web site (http://applescript.apple.com/applescript_overview/utility_scripts/UTILITY_SCRIPTS.00.HTML). The AppleScript Web site also has a lengthy technical discussion about scripting all view options, including a listing of the aforementioned AppleScript applet (http://applescript.apple.com/applescript_overview/system8/container_windows.00.html).

## Absolute Reference

**TIP** When creating or editing a formula in a ClarisWorks spreadsheet, you can enter an absolute reference to a cell by ⌘-option-clicking it. For example, ⌘-option-click cell A1 to enter $A$1. (If you copy and paste a formula or use the Fill command to replicate that formula, absolute references in it don't change in the same way that relative references do.)

HALIM NGAH
*Kuantan, Malaysia*

## Italic Jaggies

**TIP** Ever notice that the italic style of some fonts looks very jagged on screen but smooth when printed? This happens if there's an italic TrueType (or PostScript) version of the font but no equivalent italic bitmap version. The same sort of problem can affect bold and other styles on screen. For example, the Times font suitcase that comes with the Mac OS contains several bitmap sizes of plain Times together with plain, bold, italic, and bold-italic TrueType Times.

You can improve the appearance of styled text on screen simply by opening the font suitcase (in the Fonts folder) and dragging the bitmap fonts to a folder outside the System Folder. You can tell the bitmap version from the TrueType version by the icon; the icons for the bitmap versions contain only one letter A, whereas those for TrueType fonts have three As. The Finder makes you quit all open applications before you remove fonts from the Fonts folder or from suitcases inside the Fonts folder.

Once you restart the applications, you can take advantage of the new italic versions of the fonts. This tip is especially good for Web surfers—the italic text used on many pages will actually be legible!

RANDY GLENN
*Oakville, Ontario, Canada*

## Better Fax Display

**TIP** To display on-screen faxes more legibly, the Global Village Fax Center software (bundled with the Global Village TelePort and PowerPort modems) uses a moderate amount of antialiasing. While the preset amount is fine nine times out of ten, text is too blurred in some instances to be legible or more antialiasing is necessary. I've discovered that in these situations, there's a way to increase or decrease the contrast: simply use the up- and down-arrow keys. Changing the antialiasing does not affect GlobalFax OCR's ability to recognize text, nor are the changes reflected in printed copies of faxes.

JONATHAN COWPERTHWAIT
*Oakland, California*

## Web-Page Typography

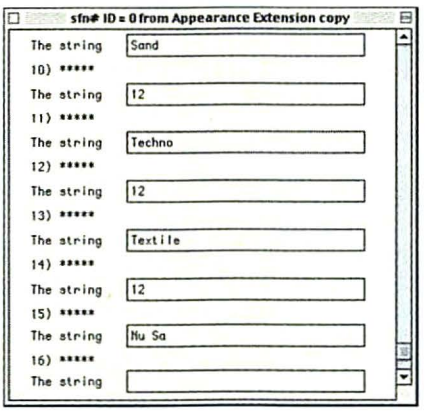
**TIP** In "Improving Your Web Typography, Part 1" (*Media*, September 1997), Jim Heid mentions using the new **<font>** HTML tag for better font control on a Web page. As a Web-site designer, I find that one of the most interesting uses of **<font>** tags is to combine them with **<pre>** tags for preformatting text. Most designers make little use of **<pre>** tags, because although they give precise text layout, they also result in the text's being displayed as a monospaced font (boring!). But by combining the **<pre>** and **<font>** tags, you preserve both layout and font control. You simply put the **<font>** tags inside the **<pre>** tags, like this: **<pre><font face="Arial, Helvetica">Text goes here </font></pre>**.

DAMEON ROLLINS
*via Macworld Online*

*Jim Heid agrees that this is a cool tip. It lets you control line breaks and spacing simply by typing spaces and hard carriage returns—no need to use codes such as* ** ** *and* **<br>**. *It seems to work fine with Navigator 3.0 and Internet Explorer 3.0.—L.P.*

## More System Fonts

**TIP** You can modify the Appearance control panel to use any font you have installed in your system for menus, dialog boxes, window titles, and so forth. Use ResEdit to open a copy of the Appearance control panel, and then open its MENU resource -4050 (which is initially empty). Choose Create New Item from the Resource menu, and for the new menu item, type the name of an installed font. Save your changes, and close the copy of the control panel. In the Finder,




**Add a System Font** You can add a font to the system font pop-up menu in the Mac OS 8 Appearance control panel by using ResEdit to modify the sfn# resource ID 0 in a copy of the Appearance extension file. To make the job easier, open the sfn# resource with ResEdit's Open Using Template command and specify the STR# template. Type the additional font name and size in two new fields.

substitute the modified control panel for the original. Now open the modified control panel, choose the system font from its pop-up menu, and restart. Voilà!

PAUL MCGRANE
*Livingston, New Jersey*

*The font you add must be a TrueType font or have a 12-point size installed. And for best results, it should include the special characters that represent the ⌘ key, the shift key, and so forth (a number of fonts don't have these). Also, this method causes the Appearance control panel's pop-up menu to display incorrectly, although it still works.*

*One possible system font to use is Marty Pfeiffer's free Virtue font (www.teleport.com/~wamozart/fontware.html). Virtue looks like Charcoal but has looser letterspacing like Chicago's, and it comes with an application that patches the Appearance extension (not the control panel) to properly list the font in the system-font pop-up menu.*

*Another possibility is to use Pfeiffer's $10 shareware Nu Sans Bold 12, which is a clone of the Espy Sans Bold font used for headings and titles in Apple Guide windows. You can get the genuine Espy font from the Apple Guide extension and other places. However, there's little point, because unlike Nu Sans, the real Espy is unable to display key-cap symbols such as ⌘ in menus.*

*Other system-font candidates include Espi Sans Bold 10 (like Espy), Tecton (like Adobe Tekton), and Veritas 12 (like Charcoal). They're all tweaked for system-font duty and are included with the Kaleidoscope shareware by Greg Landweber et al. (www.macdownload.com). In fact, you can use Kaleidoscope to change the system font to any installed font and size.*

*If you don't want to add the Kaleidoscope control panel, which modifies your system software during startup, you can add fonts to the Appearance control panel's pop-up menu by using ResEdit to modify the standard Appearance extension file (not the Appearance control panel). With this procedure, the system-font pop-up menu displays correctly.*

*First make a copy of the Appearance extension and open the copy with ResEdit. Next open the sfn# resources icon. Choose Open Using Template from the Resources menu, and in the dialog box that appears, specify the STR# template. This opens the sfn# resource ID 0 with the STR# resource template. This resource already includes the Charcoal and Chicago fonts plus the following mystery fonts: Chisel, Gadget, Sand, Techno, and Textile. Scroll past all of these fonts to the bottom of the window, click on the last set of asterisks, and choose Insert New Field twice from the Resource menu. This adds two fields to the resource, as shown in "Add a System Font." In the first new field, type the name of the font you want to add, and in the second new field, type the size of the font (use 12-point for best results). Save your changes, and quit ResEdit. Substitute your modified Appearance extension for the original, and restart your Macintosh.—L.P.* **m**

---

LON POOLE answers readers' questions and selects reader-submitted tips for this monthly column. His latest book is *Macworld Mac OS 8 Bible* (IDG Books Worldwide, 1997).

---

Shareware mentioned in *Quick Tips* is available from Macworld Online (www.macworld.com) or America Online (keyword Macworld; use keyword Apple for Apple software).

We pay $25 to $100 for tips on how to use Macs, peripherals, or software. Please include your full name and address, so that we can send you your payment. Send questions or tips to quicktips@macworld.com or to Macworld Quick Tips, 501 Second St., San Francisco, CA 94107. All published submissions become the sole property of *Macworld*. Due to the high volume of mail received, we cannot provide personal responses.

# Publishing Workshop

## How QuarkXPress 4.0 Will Change Your Life

by David Blatner and Galen Gruman

When people start talking about the big "four-oh," they usually look down in the mouth (unless it's someone *else's* birthday). However, the long-awaited 4.0 version of the world's most popular page-layout program is truly cause for celebration.

Though the engineers at Quark stripped down the program and completely rebuilt some parts of it for this release, at first glance it's still the same program you know and love. Quark's makeover includes general interface enhancements (such as tabbed dialog boxes and more keyboard shortcuts) and two basic types of new features—artistic tools (illustration, image enhancement) and structured-document tools (indexing, tables of contents, multichapter books). Quark rounds out this version with dozens of small additions that add up to major workflow and productivity gains.

This month, we explore some of the most important new features, looking at how they affect the way you do your job. We even throw in some fun tips and tricks for getting the most out of the older-but-wiser XPress.

### Bézier Curves

The most exciting new feature in QuarkXPress 4 is the ability to draw Bézier curves. This does *not* mean that XPress now takes the place of Macromedia FreeHand or Adobe Illustrator; for heavy-duty illustration, you still need a dedicated illustration program. On the other hand, how many times have you avoided designs that put text along a curve because it's just too much of a hassle to go back and forth between XPress and another program to make changes? Now you can place text along a curve right on your page; apply any of XPress's typographic formatting to it, including style sheets; and edit it to your (or your client's) heart's content.

While you may not be doing heavy-duty illustration, the drawing tools in XPress 4 are certainly powerful enough for building simple logos. Once you've made one, you can even save it as an EPS file to use in other programs. A Bézier curve can be either a line or a box. If it's a line, you can put text along it; if it's a box, you can put either text or a picture inside it.

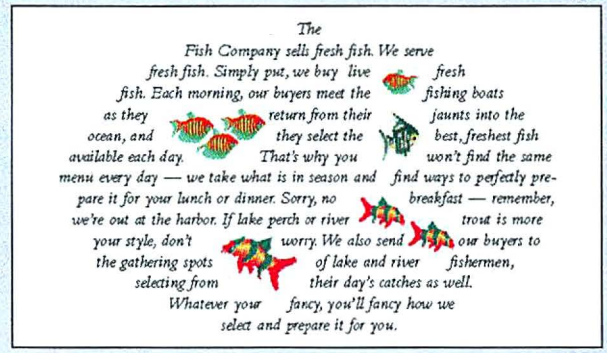
### Character-Level Styles

The second most "life-changing" feature in QuarkXPress 4 is character-level styles. For anyone unfamiliar with the concept, a style sheet is a collection of text formatting—font, size, leading, indents, color. There are two great things about style sheets: They let you apply a bunch of formatting with one keystroke or click, and they let you change

## Text Wrap

Sometimes, floating small graphics as accents in a sea of text is the perfect way to give a layout some panache. The only problem: Earlier versions of QuarkXPress limited text wraps to one side of a graphic. Version 4 lets you run text on all sides.

1. To wrap text on all sides, you have to go to an odd place: Select the text box, and choose Modify from the Item menu (⌘-M). Go to the Text tab, and check Run Text Around All Sides. (You have to set this only once, even if there are multiple items sitting on top of the text box.)
2. Now, press OK, select the foreground object (the one causing the runaround), and go to the Runaround dialog box (⌘-T).




TIP When you're flowing text around an element, it helps to see how the lines break around it. XPress 4.0's Live Refresh feature makes that easy. In the Application Preferences dialog box's Interactive tab (⌘-Y), turn on the Live Refresh check box. Now, when you drag the foreground object or change the text box's size, wait a half-second after pressing down the mouse button before moving the mouse. The pointer changes to the symbol; now the text wrap changes as you drag the picture box.

that formatting simply by changing a style sheet's definition. Up to now, a style sheet always affected an entire paragraph. The ability to apply styles on a character-by-character basis is a major leap forward.

You can easily apply separate styles to elements *within* a paragraph: run-in subheads, drop caps, even sentences or words in the middle of a paragraph. If you want every instance of a company name in a brochure to be 12-point Palatino bold, for example, you can apply a character-level style sheet to those words. If you don't like that look, changing the style sheet's definition reformats those words throughout your document.

Even better, Quark has expanded the regular Find/Change dialog box so that you can search and replace style sheets (both paragraph-level and character-level). For instance, if you want to apply a character style everywhere the phrase *new and improved* appears in your document, you can search for all instances of the phrase and automatically apply the style sheet from the Find/Change dialog box.

## Clipping Paths

For years people have gotten burned by putting TIFF images into picture boxes with a background of None. The result has always been icky jaggy edges. Quark heard the yelling and fixed it with a robust new Clipping dialog box. For images on a white or near-white background, XPress can build a clipping path for you. For a more complex background, you can create the clipping path in Adobe Photoshop. When you import the image as a TIFF file, XPress not only reads this embedded path but also lets you modify the path. Create multiple paths, and XPress will let you choose which one to display

*continues*

# Shape Your Text

It used to be that you needed Adobe Illustrator or Macromedia FreeHand to create text effects and then export them in EPS format for use in QuarkXPress. No longer. With XPress 4.0, you can make text align to any path—whether a Bézier curve or a straight line. In addition to making text follow a shape, you can even turn text into a shape.

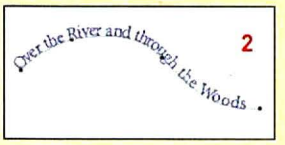
### Follow That Path

1. Create a path using one of the four text-on-a-path drawing tools—Bézier, standard line, orthogonal line, or freehand tool.

TIP **You can move tools you use often from their pop-up into the main Tool palette. Press control when selecting the tool. Control-clicking on a tool in the regular palette puts it back in its original pop-up menu.**

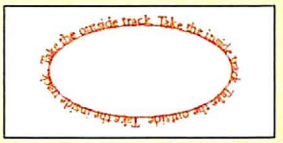
2. Click on the Content tool, and then click anywhere on the text path. Start typing.
3. Format your text as you would any other text.

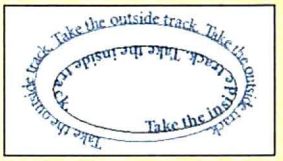
TIP **You can put text on any path. Select the path, go to the Item menu, and choose Text from the Content submenu.**



### Follow That Shape

To have text run around a box's shape, create a box by using any of the box tools. Then in the Item menu choose Shape and select the squiggly-line icon, which converts the box into a closed path. Now use Item → Content → Text to convert the path into a text path. If you want text to run around a box's contents, do the preceding steps on a copy of the original box and place that copy on top of the original box.





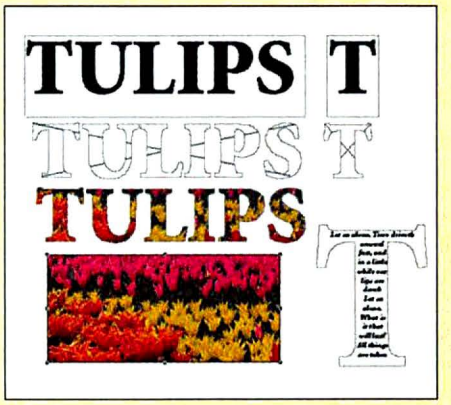

### Now It's Inside, Now It's Out

To get text inside a path (rather than outside the path, which is the default), Choose Flip Text from the Style menu (or click on the Flip Text icon in the Measurements palette).

### Now It's Text, Now It's a Box

1. Select anywhere from one character to a full line of text—but no more than one line—with the Content tool. In the Style menu, choose Text To Box to convert the text to a picture box.
2. You can now scale the box like any other box and bring a picture into it. Convert it to a text box, and you can even add text inside your text. Note that even though these letters don't touch, they form a single picture box.

TIP **To break out letters as individual boxes, convert each letter separately. If you've already converted a group of letters and they don't touch, you can still split them apart. In the Item menu, choose Split → Outside Paths.**



and print. You can even use clipping paths to extend part of the clipped image into the layout beyond the picture box.

### Long Documents

The long-document market—that is, folks who are creating books, magazines, and catalogs—will love three of XPress 4's new features: Books, Lists, and Indexes.

**Books** The Books feature lets you identify a group of documents to be treated as a single entity. You can automatically paginate the group so that page numbers run consecutively from the beginning of the book to the end, and you can print the whole thing at once. You can also synchronize the style sheets, colors, and other information among all the documents. The word *book* is misleadingly narrow—this feature is aimed at anyone who is creating manuals, documentation, and other multichapter projects.

**Lists** At first glance, Lists appears to be just a table-of-contents generator, but it does more than that. It lets you create any sort of list, based on the style sheets you use. You can create, for example, a list of all tables (by creating a unique style sheet for table titles and applying it to each one), an outline (by capturing all the heading styles), a list of headlines, a list of figures, every instance of a footnote, and more. If you can tag it with a paragraph style sheet, you can capture it in a list.

Once you have defined your lists (in the Edit menu, choose Lists), you can generate one with the Lists palette (option-F11). Choose the list you want to generate, position the pointer in the text box where you want to add the list, and then click on the palette's Build button or Update button as appropriate. Note that the page numbers are based on what was true when you generated the list; if you change your document, you must rebuild the list to get the new page numbers.

**Indexes** XPress 4 handles indexing through an XTension that ships with the product (if you don't need indexing, you can turn it off with the new XTension Manager feature).

To create an index, use the Index palette (in the View menu, choose Show Index). As you go through a document, highlight each word or phrase to be indexed and click on the Add button (red brackets appear on screen around the indexed text). The Scope pop-up menu lets you extend the index to the end of the paragraph, to the occurrence of a specific style sheet, or for a specified number of paragraphs. Scope lets you create index references that traverse a range (for example, "Macintosh, pp. 41–43").

You must index each occurrence of a word or phrase you want your index to include—XPress will not search them out for you. However, you can add words or phrases to the index, even if they don't appear in the document (for instance, you might want entries for *fish sticks*, *popsicles*, and *ice cream* to appear in the index under *frozen foods*, even if that phrase never appears in the text). You can check to see if you used more than one variation for a word (such as *Mac* and *Macintosh*), by scrolling through the palette's list of indexed terms. You can create an index from multiple documents if they're defined as a book, make "see" and "see also" cross-references within an index, and format the text in the index automatically, too.

If you click on the hierarchy triangle to the left of a term, you can see a list of all the pages on which the word or phrase has been indexed. When you're finished with the index, select a text box and in the Utilities menu, choose Build Index to create the actual index.

### Color and Printing

Quark is solidifying its position in the color prepress world with XPress 4's color and printing features. The most important of these is the ability to mix spot-color inks into *multi-ink* colors. If you are printing a two-color job with black and red, you can make it appear to be a three-color job by overprinting tints of red and black to form a dark red. It's always been a hassle to create this kind of effect, and you could almost never see a preview of the mixed color on screen. XPress 4's multi-ink feature makes it easy to create

## Add and Subtract Shapes

Gaining access to illustration tools doesn't suddenly make you an illustrator. Fortunately, QuarkXPress 4 lets you build complex objects out of simpler ones by using the Merge commands.

There are seven Merge commands in the Item menu; each lets you add or subtract two or more items on your page.

**Intersection** deletes everything except the parts that are overlapping the farthest-back object.

**Union** groups selected objects into a single object.

**Difference** acts like a cookie cutter—it cuts out the overlapping object's shape from the background object.

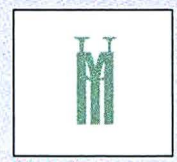
**Reverse Difference** is like a cookie cutter, too, but this time XPress cuts out the background object's shape from the foreground object.

**Exclusive Or** combines all the shapes, but it cuts out the parts that overlap each other (this is sort of the reverse of Intersection).

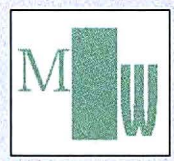
**Combine** is visually identical to Exclusive Or, but where Exclusive Or places corner points at all the intersection points, Combine does not. We often find Combine more useful.

**Join Endpoints** does just what it sounds like. The open endpoints of two lines (curved or straight) must be close to each other for this to work properly.

Original shapes

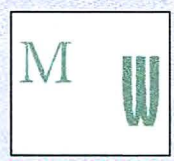


Intersection



Union

Difference



Reverse Difference

Exclusive Or

and preview these colors.

Mixing colored tints increases the possibility of moiré patterns at print time, so the fact that Quark has significantly revamped the Print dialog box comes as a pleasant surprise. Not only can you print noncontiguous pages (such as 1, 4, 6–8, and 13) but you can also specify halftone settings for each color individually, preview how the page will print, and save sets of Print dialog-box configurations for reuse. Plus, the Page Setup dialog box and the Print dialog box are now two tabs in one dialog box, so it's faster to go back and forth between the two.

If it's the cutting edge you want, you can get that from XPress, too, as it includes Pantone's Hexachrome HiFi color sets (don't forget to pick up a Hexachrome swatch book from Pantone so you can see what these colors look like in print). Hexachrome is a six-color printing process that allows you to achieve some bright colors that you cannot get in normal CMYK printing. Although this is kind of cool, most people will never use it, because HiFi color adds to the cost of the job and does not help the quality of most images.

The great color news of the day is that Quark dropped the EfiColor XTension and now ships XPress with the Quark CMS XTension, based on Kodak's Color Management System and Apple's ColorSync. It's a better-implemented system and provides superior color quality. However, color management is not currently (and may never be) easy; to use the Quark CMS properly is going to take some hard work and some education.

### Little Changes Make a Big Difference

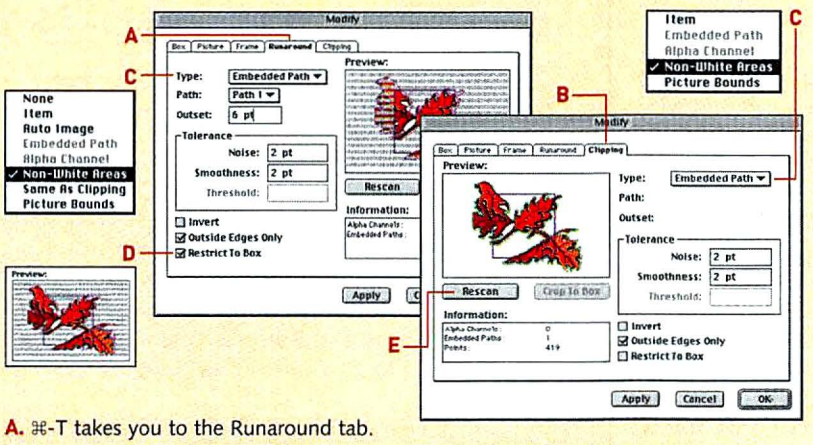
While there are some really big changes in QuarkXPress 4, there are also some smaller, subtler changes that will nevertheless have a significant impact on your working life. One of the coolest little changes is that you can now use either the Item tool or the Content tool to import pictures into a box. In fact, in most cases, it no longer matters which tool you use (you can even select multiple objects with the content tool). Here are some others:

- Zoom to 800 percent view. This is great when you care a lot about your kerning.
- Make your own dashes and stripes. This built-in feature lets you augment the ones that come with the program. These are true PostScript elements, so they look good in print at any size.
- Append elements to documents. The File menu's new Append command lets you bring style sheets, colors, lists, or custom dashes or stripes into your document from another file, even if that file is closed. And you can now select which elements to import—it's no longer all or nothing.
- Interactively scale multiple objects simultaneously. Just group them (⌘-G) and then ⌘-option-shift-drag one of the corner handles of the group.
- Create truly empty boxes. XPress now offers None as a box type. Unlike "empty" text and picture boxes, None boxes

*continues*

## Guided Tour of Clipping Controls

Designers love to snatch objects from a photographic background and plop them down in the middle of a page. It's a fanciful effect that used to require a lot of tedious work. QuarkXPress 4.0 offers much more flexible ways to work with clipping paths; it'll even do some of the tedious stuff for you. You do most of the clipping work in the Modify dialog box. Select an image, and choose Modify (⌘-M) in the Item menu.




**A.** ⌘-T takes you to the Runaround tab.

**B.** ⌘-option-T gets the Clipping tab, where you do your fancy text-wrap work.

**C.** Choosing the Non-White Areas option tells XPress 4 to ignore areas that are white or nearly white (increase the Threshold settings for off-white backgrounds).

**D.** Uncheck Restrict To Box to display portions of the image that extend beyond the box's current boundaries. XPress can then wrap text around the invisible parts of the image, not just the visible parts.

**E.** If you make changes to a clipping path but you don't like them, click on Rescan to reinstate the original path.

### Clip Tips

- To create silhouettes or masks, import a TIFF file that contains nothing more than a clipping path.
- To save redraw time and avoid some potentially awkward wraps, check Outside Edges Only in the Clipping tab; this ensures that text stays on the outside of an image. Uncheck this option if you want text to fall within an image—for example, if you're wrapping text around a picture of a doughnut and you want text in the doughnut hole, not just around the outside edges.
- If you want your text to wrap around the image's embedded paths, be sure to set the Runaround option to Same As Clipping, so XPress 4 follows the Clipping tab's settings as it wraps the text.
- Fine-tune the clipping path in your layout. In the Item menu, choose Edit → Clipping Path (shift-option-F4), to make the path visible on screen. Now edit it as you would any Bézier curve in QuarkXPress.

don't contain anything, so they're perfect for solid-color backgrounds or shapes. They additionally keep the file size down.

• Interrupt screen redraw. In case your page is taking too long to draw on screen, XPress lets you interrupt the screen redraw with any click or by pressing ⌘-period. (Tip: To force XPress to resume redrawing, press ⌘-option-period).

• Unlimited tab stops. If you make a lot of tables, you'll be happy to know that you can make as many tab stops in a paragraph as you want. Quark is working on a table-creating XTension. Similarly, Tableworks (formerly Npath Software, 425/392-7745, www.tableworks.com) is readying an upgrade, called Entable, to its popular Tableworks table editor that takes advantage of the new tab features.

## Caution: Saving in 3.3 Format

QuarkXPress 4 includes the ability to save your documents in XPress 3.3 format. While this sounds like a great thing to anyone who has to work with people who are slow to upgrade, it has the potential to make your life miserable. Many of the cool new features in XPress 4 disappear when you save the file as an earlier version. Bézier curves become straight-line polygons; text on a path is straightened out and converted to a normal text box; custom dashes default to normal straight lines; character style sheets disappear (though the text style remains as local formatting); multi-ink colors become RGB colors. In other words, if you use any of the new features, this backward compatibility is disastrous to your work.

Oddly enough, if you save in 3.3 format and later bring the document back to version 4, some features do survive, notably the index entries. So, while it's great that Quark included this feature, you should use it with care.

### Always Room for Improvement

Fortunately, while QuarkXPress 4 has the potential to significantly better your page-layout work, it's not going to take too long to learn, because most new features meld seamlessly into the interface that you already know and love. There are many features we'd love to see added to QuarkXPress (for example, basic Web-export capabilities), and some old ones could stand improvement (the interface in the Space/Align dialog box is still horrible, for instance, and the Measurements palette pales in comparison to PageMaker's). Why didn't Quark implement fully functioning contextual menus? And why does XPress still lack a Layers palette?

All in all, this upgrade is a success. It may have been a long time in the making, but now at last we can see why. Some upgrades focus more on adding 3-D buttons and useless bells and whistles. With XPress 4.0, Quark added true functionality that really affects the way you work. **m**

DAVID BLATNER is the author of *The QuarkXPress Book*, fifth edition (Peachpit Press, 1997), and other books. You can reach him at david@moo.com. GALEN GRUMAN, *Macworld*'s editor, is coauthor of *Macworld QuarkXPress 4 Bible* and *QuarkXPress 4 for Dummies* (both IDG Books Worldwide, 1997).

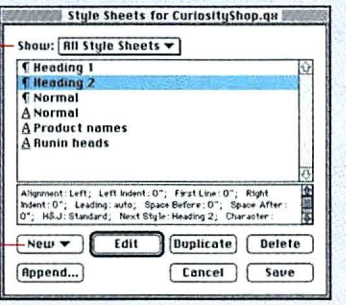
## Managing Character Style Sheets

Making a character-level style sheet in QuarkXPress 4 is simple, because Quark has changed the Style Sheets dialog box to accommodate both character-level and paragraph-level style sheets, although it may appear daunting. Here's an easy way to make a style sheet.

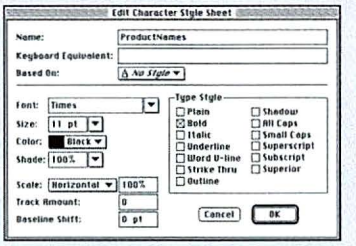
1. Format some text exactly as you want the character style to be. Remember that character style sheets can include only character-level formatting (color, font, size, tracking, baseline shift, and so on). Paragraph-level formatting (leading, indents, drop caps, horizontal alignment) works only in paragraph style sheets.
2. While the text is selected, open the Style Sheets dialog box (select Style Sheets from the Edit menu, or ⌘-click on any name in the Style Sheets palette) and choose Character from the New pop-up menu.

Specify which style sheets appear in this list.

Choose the type of style (Character or Paragraph) you want to create.

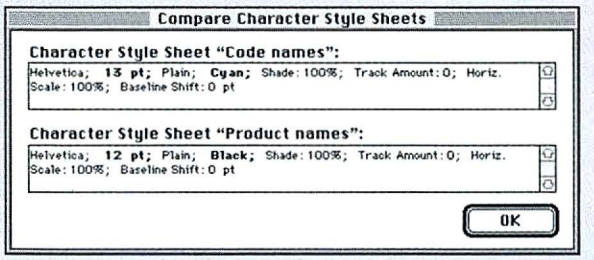



3. Give the style sheet a name. All the text formatting gets sucked into this dialog box automatically. You can still change it by altering the pop-up menus and check boxes in this dialog box.
4. Click on OK, and then click on Save.




### Comparing Styles

If you've got two style sheets (either character or paragraph styles) that are similar, XPress can compare them for you. While pressing the ⌘ key, select both styles in the Style Sheets dialog box, and then option-click on the Append button (holding the option key down changes this into the Compare button). The program opens a new dialog box showing each style definition; the parts that are different are in bold.



## IMAGINE BEING JUDGED ON YOUR IDEAS, NOT JUST YOUR COMPS.

Got a big idea? Well, even if you need it as a four-color, 11" by 17" bleed on 125 lb. tag board, we can help you make it pop. With any one of our big family of color printers — from our $4,995* Phaser® 300X to the new Phaser® 380 — you get the same vibrant photo-realistic Tektronix® color that satisfies the fussiest designers. See, if you can dream it up, we've got a way to get you there. To judge for yourself, call 1-800-555-1212 ext. 1512, or visit www.tek.com/CPad?1512

**Tektronix®**

*Estimated U.S. selling price; reseller price may vary. ©1997 Tektronix, Inc. All rights reserved. Tektronix and Phaser are registered trademarks of Tektronix, Inc.

# Graphics Workshop

## Easy Fixes for Common Image Problems

by Cathy Abes

**ARTIST** David Peters is a photo-illustrator based in Venice, California, whose clients include *Air & Space/Smithsonian* and *Time*. Many of his Photoshop techniques find their way into his digital-illustration classes at Otis College of Art and Design in Los Angeles.

**HOW IT WAS DONE** Peters has found many of Photoshop's native filters useful for repairing imperfections such as dust, scratches, large-dot patterns, and banding in scanned photographs.

Here, he began by scanning a battered postcard that looked like it had been caught in a mail sorter. Peters first tackled the sky, using Gaussian Blur to soften the worst scratches and the dot pattern; he then blended most of the smaller scratches with Dust & Scratches.

Most effective for the less obvious scratches and dot patterns on the hula dancer's face, arms, and skirt was the application of Gaussian Blur, followed by the Median filter. Using Gaussian Blur alone would have oversoftened the image. Median sharpened the image without bringing back the dot pattern.

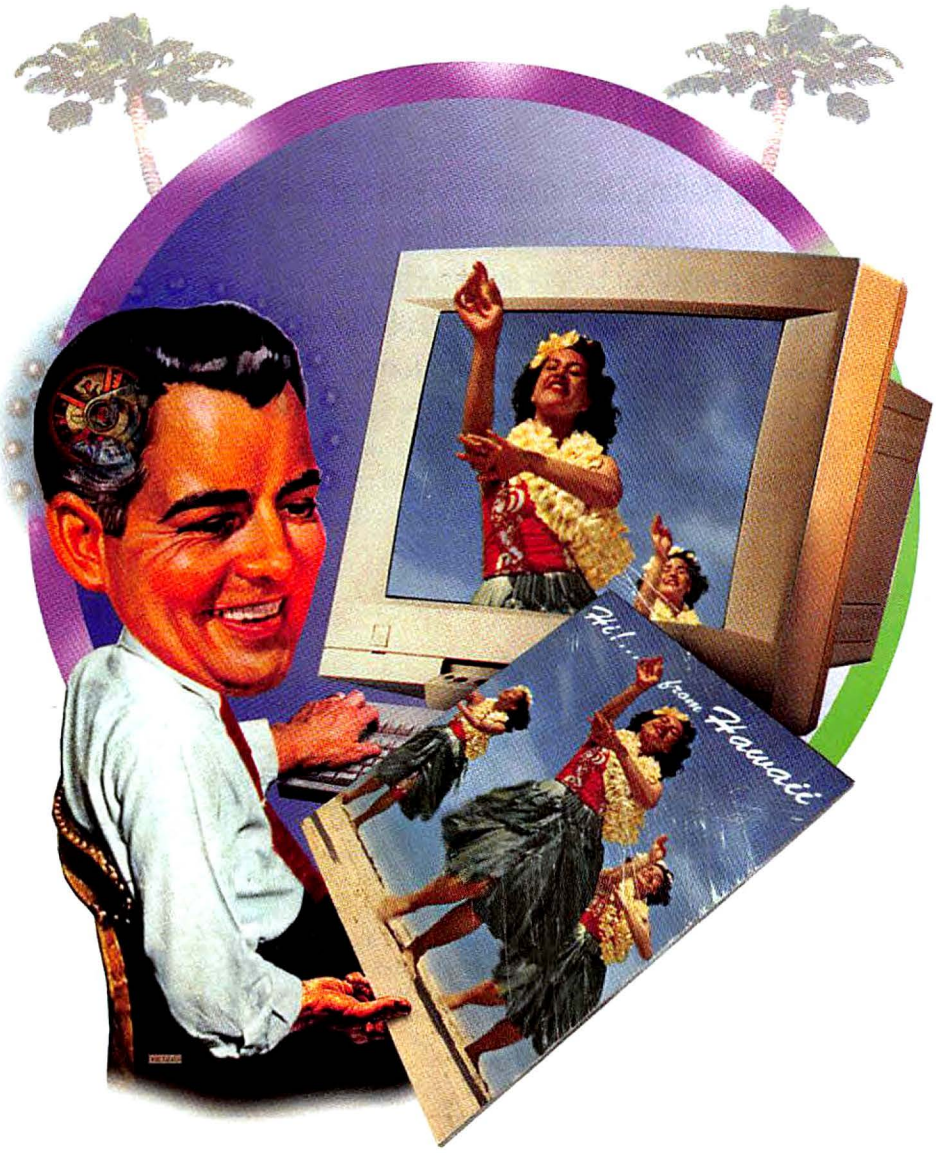
Peters then used the Crystalize filter to subtly diffuse the color banding (apparent only in CMYK mode) caused by the gradient fill in the blue circular background. The final step involved cloning out the small white chips that appeared along the background's edge—an unwanted side effect of the filtering process.

**TOOLS** **Hardware:** Apple Power Macintosh 9500/150 with 132MB of RAM, 2GB internal hard drive, and 1GB external hard drive; 1GB ProMax Iomega Jaz removable-cartridge drive; 21-inch NEC MultiSync XE21 color monitor; Microtek ScanMaker III color flatbed scanner. **Software:** Adobe Photoshop 4.0. **m**

**1** Flaws in the scanned postcard included scratches, scrapes, a large-dot pattern, and an uneven surface.

**2** After experimenting with Gaussian Blur at several lower settings, which didn't have enough effect, Peters finally settled on a 6-pixel radius to soften the scratches.

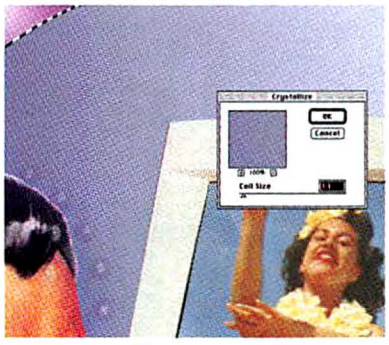
**3** Applying Dust & Scratches (a Noise filter) at a 6-pixel radius and a 12-level threshold blended most of the remaining smaller scratches, leaving only the worst surface flaws, which he would later clone out.



**7** To fix the residual "chipping" effect of applying the Crystallize filter in a selection, he reloaded the blue circular background selection and cloned from its center to remove the white chips at the outer edge.

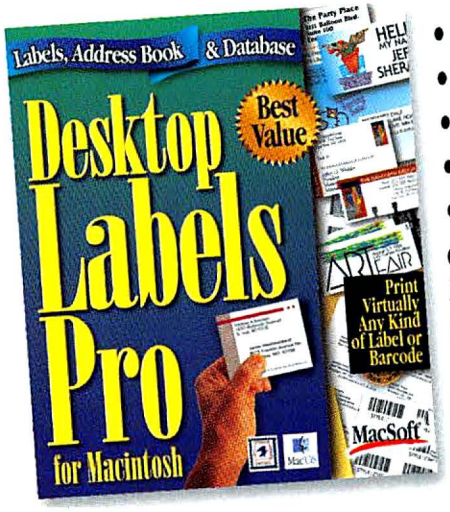
**4** Blurring the smaller scratches and diffusing the dot pattern on the hula dancer was a two-step process. After drawing a rough-outline selection around the figure, Peters first applied Gaussian Blur with a 1-pixel radius.

**5** To sharpen the facial features without bringing back the dot pattern, he applied Median (another Noise filter) with a low, 2-pixel radius to a 6-pixel feathered selection of the hula dancer. (Although this filter brought back the larger scratches, it made them easier to clone out.)



**6** To fix the banding problem (apparent only in CMYK mode) caused by the gradient fill in the circular background, Peters applied Crystallize (one of the Pixelate filters) at a low setting (a cell size of 14).

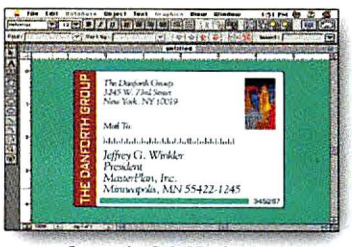
# Create Labels, Barcodes and Mailing Lists in one easy-to-use program




- Store Your Mailing Lists in the Powerful Database
- Design Professional Labels in Minutes
- Create Personalized Letters and Brochures
- Create and Print Virtually Any Kind of Barcode
- Flexible Graphics and Page Layout Tools

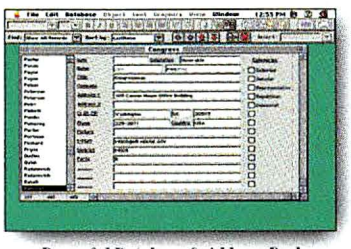
Create labels, barcodes, mailing lists, personalized form letters, tickets and more. Just design your label or document, enter or import your names into the database, and print. Create and customize your own professional labels or select from hundreds of built-in label formats. Whether you're printing one label or thousands, Desktop Labels Pro makes it easy.

**$24.99**



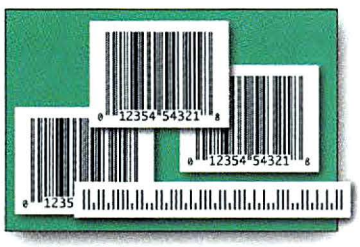

### Innovative Label Designer

Desktop Labels Pro gives you many of the same powerful graphics tools found in the best desktop publishing programs. You can design your own professional-quality labels in just minutes.



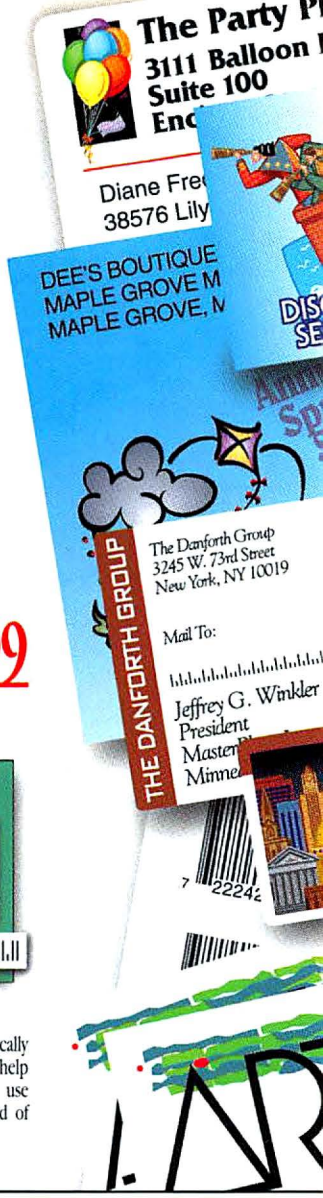
### Powerful Database & Address Book

Holds up to 32,000 names. The built-in database & address book makes it easy to enter names from your keyboard or import them from another program. Once entered, you can quickly find the names you want, arrange them in any order and print mailing labels using the built-in label designer.

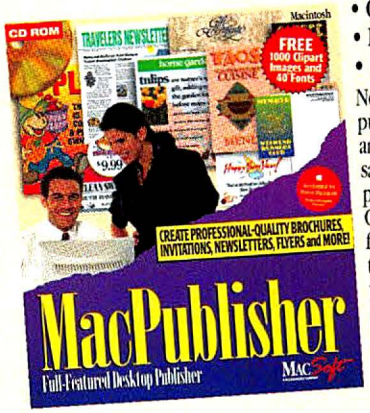



### Print Virtually Any Kind of Barcode

If you wish, Desktop Labels Pro will automatically print postnet barcodes on your mailing labels to help speed up post office delivery. Or, you can use Desktop Labels Pro to print virtually any kind of commercial barcode.

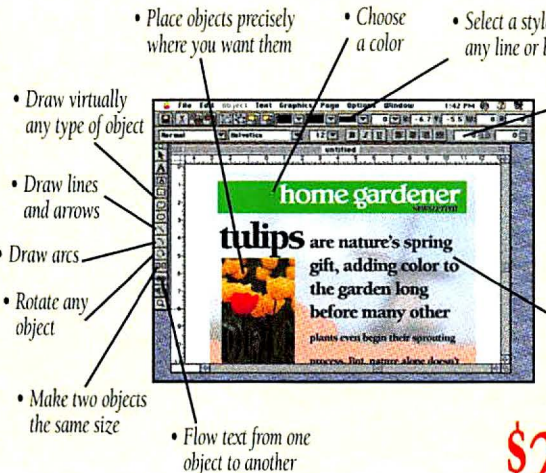



# Full-Featured Desktop Publisher




- Create professional-quality documents
- Built-in spell-checker
- 50 professionally-designed templates

Now you can work with the same desktop publishing tools used by the best graphic artists. MacPublisher gives you many of the same powerful page layout tools found in programs priced hundreds of dollars more. Create brochures, invitations, newsletters, flyers and more. Save time by using one of the 50 professionally-designed templates or you can create your own master pages. Draw graphic objects, or import them from any graphics format, and place them anywhere on your document. Powerful tools are just a click away!




**$24.99**

**MacSoft®**

An Affiliate of GT Interactive Software
2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

**Available now from your favorite reseller**
or by calling

**800-229-2714**

Call for a free catalog or visit our website at www.wizworks.com

**Circle 39 on reader service card**

**Comp.fonts Home Page**
Get answers to questions on typography at
www.ora.com/homepages/comp.fonts/



# 10 Typographical Blunders

## Nobody dies of bad type, but it could lose you an important client

By Kathleen Tinkel
graphicsuser@macuser.com

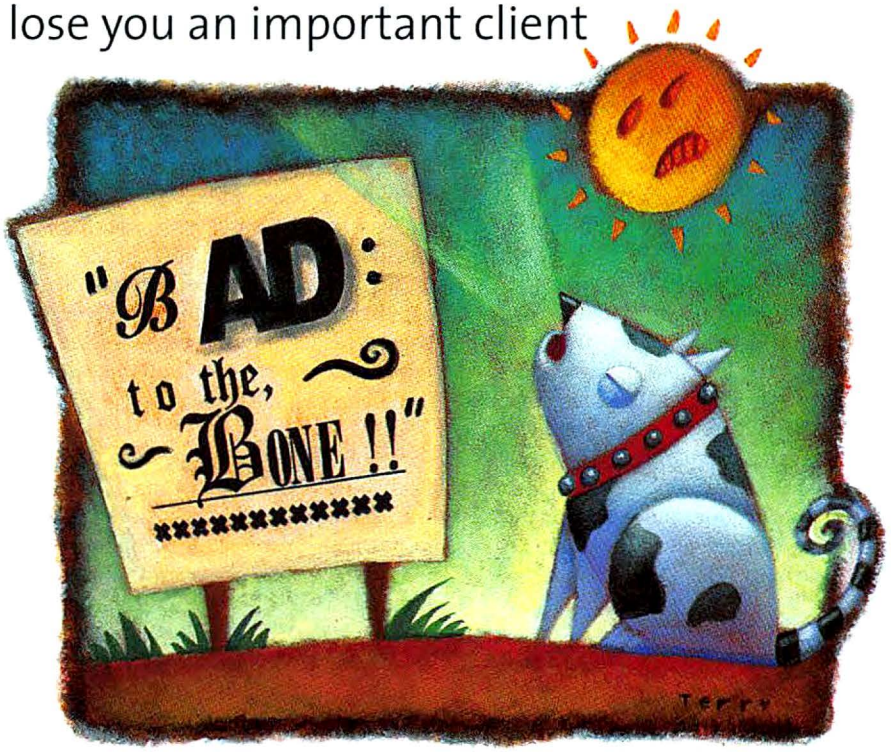



Illustration · Will Terry

IT'S ALL TOO EASY to make the kinds of mistakes in typography that distract or mislead readers, make pages hard to read, or look sloppy and amateurish. Fortunately, you don't have to become a master typographer to avoid making such mistakes. You just need to be aware of what makes a page look bad and to know some manual adjustment techniques for fixing the errors. Here are ten of the most glaring errors and advice on how to keep them out of your pages:

### 1. Rotten Spacing

*Holes* (large spaces between words), poor *letterspacing* (obvious space between letters), *ladders* (more than three consecutive lines ending with hyphens), and awkward word breaks can ruin the look of a page. Here are some techniques to help you fix such problems:

**Change software settings.** Changing the default space settings (hyphenation and justification) in your page-layout program can produce the most-dramatic improvement in spacing. Do this before making any other changes to your text. For specifics on changing settings in QuarkXPress and Adobe PageMaker, see the "Key to Better Spacing" sidebar.

**Edit the copy.** Assuming you're authorized to do this (or can get away with it), editing the copy is often the most elegant solution.

**Hyphenate manually.** Look for loose or tight lines before a problem line, and either break a word or push a broken-word stub down to the next line. To hyphenate manually in QuarkXPress, use ⌘-hyphen. In PageMaker, use ⌘-Shift-hyphen.

**Try a different font.** Some typefaces take up more space than others—for instance, 9-point Adobe Caslon fits about 10 percent more characters on a line than 9-point Utopia.

**Choose a smaller type size.** There are limits, of course—few typefaces are legible below 9 or 10 points.

**Make columns wider.** Do this with caution—wide columns make it easy to get good spacing, but it's more difficult to read wide lines. Also, wide columns of small type tend to look gray and forbidding. For typical copy, Adobe Caslon at 9/11 sets nicely in 18- to 20-pica lines and is tolerable in 11- or 12-pica lines.

**Don't justify.** Use ragged type instead whenever you can. If you set type flush left/ragged right instead of justifying it, word- and letterspacing are not altered at all. If you find the raggedness at the right margin too wild, you can fiddle with hyphenation to try to shape it more gracefully.

**Don't tamper too much.** Resist changing spacing between characters in unjustified text, even if you want to eliminate or pad a short line. Adding spaces only disrupts the naturally even typographic color of flush-left/ragged-right type. In fact, it's likely to produce an ugly striped pattern of light and dark lines or create nasty optical blobs in which parts of letters collide.

### 2. Typewriter Habits

You'll impress clients and create a better-looking page if you make sure you follow typographical standards rather than word-processing ones. For the most part, this

**Type Museum**
Read interesting articles on the history and use of type:
www.slip.net/~graphion/museum.html

means using the correct special characters, but you should also avoid a few typewriting habits.

**Mind your apostrophes and quotation marks.** Type designers create apostrophes and quotation marks to match the design features of a typeface's other characters—the tail of the *y*, the stroke of the *r*, serifs. Using generic typewriter marks, or "straight quotes," instead of these complementary characters stamps work indelibly as amateurish.

**Use curly quotes.** If the curly quotes, also called smart quotes, function isn't already turned on in your page-layout software, you should turn it on (in many programs you can turn on smart quotes in Preferences; see your manual if you need instructions). With the smart-quotes option on, your software automatically produces typographic characters as you type double and single quote marks. PageMaker, QuarkXPress, and some other programs also include filters that convert the quotes automatically as you import text.

**Double-check apostrophes.** Even if you turn on smart quotes, you may still have problems with quotes. A program can insert an opening single quote when the correct character is a *leading apostrophe* (the first character in an abbreviation, such as *'tis*, or a truncated date, such as *'98*). Use the key combination Option-Shift-] to get the leading apostrophe character when you need it. (See figure 1 for an illustration of the difference between a leading apostrophe and an opening quotation mark.)

**Use real feet and inch marks.** Contrary to what you sometimes read, using typewriter marks for feet and inches is not typographically correct. The correct characters are in the Symbol font: for the foot mark, use the prime character (Option-4); for the inch mark, use the double-prime character (Option-comma).

**Don't underline or use all caps.** For emphasizing words in text or for indicating the title of a book or movie, use italics rather than underscoring. (In fact, it's best not to underline for any reason—the feature doesn't work correctly in scalable fonts.) For more-dramatic emphasis—for instance, in headings and subheadings—use bold type rather than all caps.

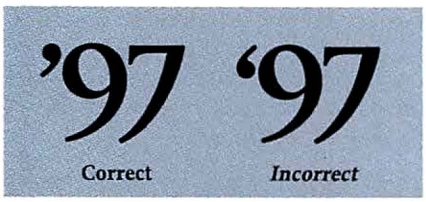



*figure 1 · Don't get caught using the wrong character in truncated words and dates. Always use a leading apostrophe, not an opening quotation mark.*

**Use dashes, not hyphens.** Use an em dash (Option-Shift-hyphen) instead of a hyphen to separate parts of a sentence. Also, when you want to use a symbol in place of the word *to* (such as in a range of time, 5 P.M.–6 P.M., or dates, 1963–1997), use an en dash (Option-hyphen), not a hyphen. But don't use a dash in phone numbers—that's the correct occasion for a hyphen.

**Omit extra spaces.** Don't put two spaces after a period, even though that's not how your high school typing teacher trained you. In typeset text, word spaces tend to be too large, not too small, and reading is slowed by large spaces between words. If you can't break the two-space habit, use your program's find-and-replace function to replace each double space with a single space before typesetting.

## 3. Uneven Leading

Use specific numeric values, not "auto" leading, to preserve line spacing when you insert a large character in a line of text. In fact, it's best to use specific leading values rather than autoleading in all your text.

## 4. Confusing Subheads

Leave more space before a subhead than after it. A subhead logically goes with the text that follows, not the text before.

## 5. Unreadable Display Font

Don't set a display font—a font that's designed and spaced for setting at large sizes—in body-text sizes, because it can make the type illegible. You can get away with using text fonts for headlines, though. You can usually identify display fonts as those that come in a limited range of styles or weights (and there may be no matching italic), such as Lithos and ITC Machine Bold.

## 6. Ligature Surprises

Don't let *ligatures* (two characters fused together, for example the *fi* character you get when you type Option-Shift-5) creep into words set in all caps. This sounds obvious, since ligatures are lowercase characters, but it happens when you use automatic ligature substitution in lines that are then printed in all caps (by using ⌘-K or ⌘-H on selected text or as part of a style, for example).

Don't use ligatures in headlines or other type set in large sizes either. You can't change the spacing within a ligature, yet headlines and large type need to be tracked to tighten spacing. Tracking text with ligatures will only make the ligatures stand out awkwardly. (See figure 2 for a sample blunder with ligatures.)

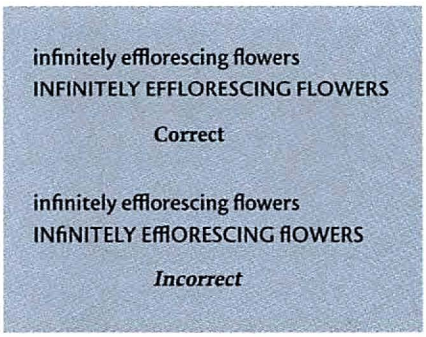



*figure 2 · You'll get nothing but trouble if you include ligatures in strings of all-caps text. If you plan to make text all caps, leave ligatures out.*

## 7. Lonely Drop Caps

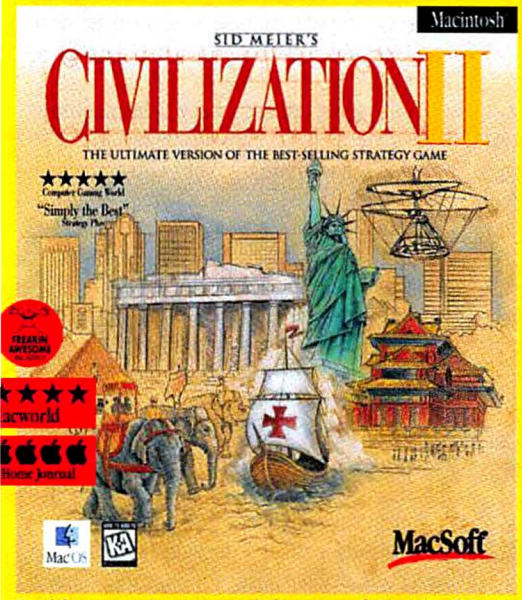
Although you see it sometimes in even the best publications, a drop cap sitting in a square hole with no visible relationship to the surrounding text is not only ugly but also distracting for readers (see figure 3). It's acceptable to pull the first line close to the cap, although this can look odd (it often helps to use bolder type or small caps for the first couple of words after the cap in this case). You can also fit the regular text around the cap, use an ornamental cap that fills the rectangular space, or use some other technique for drawing the eye to the start of text—a stickup cap, larger lead-in type, or a few words in bold.

## 8. Bad English

Even if the writer got it wrong in the copy, the person setting the type has long been responsible for correcting obvious spelling, grammar, and usage errors. Keep handy a basic guide to usage, such as *The Chicago Manual of Style*; *The Little, Brown Handbook*; or *The Associated Press Stylebook and Libel Manual*. Don't rely exclusively on a spell checker; be sure to proofread carefully to catch ambiguous words.

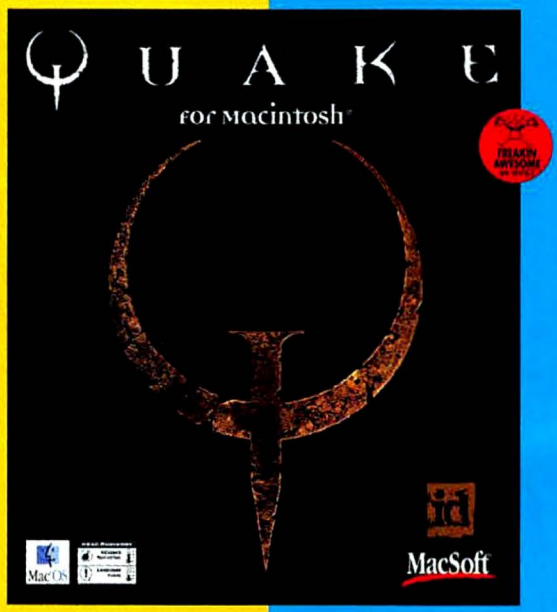
# Think Hard.

# Play Hard.




Build an empire to stand the test of time in this strategy game that was called "perhaps the best game on the planet" by Strategy Plus magazine.

From the creators of Doom comes the most intense, technologically advanced 3D experience ever captured on CD-ROM.



Forge an empire to span a universe in this turn-based strategy game. Explore, colonize, conquer, trade and discover new technologies to achieve galactic supremacy.

This highly-rated, #1-selling 3D shooter offers ground-breaking realism, endless explosive action and a humorous attitude.

Quake® ©1996, 1997 Id Software, Inc. All Rights Reserved. Duke Nukem™3D ©1996, 1997 3D Realms Entertainment. Master of Orion™ II: Battle at Antares™ ©1996, 1997 Microprose Software, Inc. All RIghts Reserved. Civilization® II ©1996, 1997 Microprose Software, Inc. All Rights Reserved.

**800-229-2714**

Call for a free catalog or visit our website at www.wizworks.com

MacSoft®

An Affiliate of GT Interactive Software

2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

**Circle 30 on reader service card**

**Lively Discussion**
If you're a CompuServe member, you can get in on the sometimes opinionated conversation about type. In CompuServe, type GO DTPFOR.

LOOK ON HER, mark her well; be but about to say she is a goodly lady, and the justice of your hearts will thereto add, 'tis pity she's not honest–honorable. Praise her but for this her without-door form–which on my faith deserves high speech–and straight the shrug,the hum, or ha–these petty brands that calumny doth use . . .

**Correct**

ALONSO OF ARAGON was wont to say in commendation of age that age appears to be best in four things–old wood best to burn, old wine to drink, old friends to trust, and old authors to read, according to Francis Bacon in *Apothegms*, in which he also wrote that "Riches are a good handmaid, but the worst mistress."

**Correct**

Alonso of Aragon was wont to say in commendation of age that age appears to be best in four things–old wood best to burn, old wine to drink, old friends to trust, and old authors to read, according to Francis Bacon in *Apothegms*, in which he also wrote that "Riches are a good handmaid, but the worst mistress."

***Incorrect***

*figure 3 · Nothing is sadder than a lonely-looking drop cap (bottom). Here are a couple of ways to integrate drop caps into text.*

**Use the right form of *its*.** We all sometimes do it without thinking—add an apostrophe to the possessive form of *it*—yet this error stands out as a badge of ignorance. Be sure to take apostrophes out of the possessive *its* but not out of the contraction of *it is*.

**Put commas and periods within quotes.** Place commas and periods within closing quotes regardless of context. This practice strikes many people as illogical—in fact, it isn't followed in England—but in printed American English, it is correct.

Place all other marks of punctuation—question and exclamation marks, colons, and semicolons—outside unless they're actually part of the quoted material.

**Don't hyphenate contractions.** No sensible person would think of breaking such words as *isn't*, *haven't*, *couldn't*, and *didn't* before the *n*, but a computer sometimes does. The unalterable default hyphenation routines in QuarkXPress (although not in PageMaker and FrameMaker) break contractions, so we see this wretched error whenever QuarkXPress is used for setting text.

Unfortunately, repairing it is a bit tedious. Search for all occurrences of *n't*, and reunite any broken contractions by typing ⌘-hyphen (the optional-hyphen code) in front of the first letter of each word.

## 9. Crowded Caps

Use tracking to add space to strings of text you set in all caps to make them more legible and aesthetically pleasing. It's especially important to add space to all-caps sans serif typefaces, because letters tend to run together. Small caps also need extra letterspacing, for the same reason.

Style sheets make it easy to control the letterspacing of all-caps subheads: In PageMaker, include the Very Loose track in the style sheet; in QuarkXPress, assign a specific manual-tracking value. Alternatively, in either program, change the desired/optimum and maximum word-spacing values for the all-caps paragraphs to some high value—50 to 70 percent, for example.

## 10. Inconsistent Style

Handle each category (plain text, A head, B head, subhead, caption, pull quote, and so on) in the same way throughout an article or publication—the same typeface, size, style, and spacing, for example. The best way to accomplish this is by using style sheets and religiously applying a style to every paragraph. (If your software doesn't have character styles—PageMaker does not at this writing; QuarkXPress 4.0 will—you may need to make notes on how you set special kinds of text within paragraphs.)

*Graphic designer Kathleen Tinkel writes about typography, design, and prepress. Her Print Clearly column appears monthly in* MacWeek.

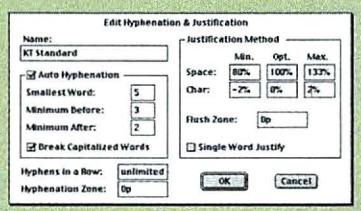
## The Key to Better Spacing *software adjustments*

Rotten spacing can be improved, if not cured, by changing the default settings in your page-layout software. QuarkXPress' default settings tend to enlarge the spaces between words and tighten the spaces between letters. PageMaker encourages looser word- and letterspacing. For hyphenation, the default settings cause other problems. QuarkXPress offers good specific controls, but it is still likely to make hyphenation errors. PageMaker gives you less control over which words to hyphenate, and it sometimes fails to break capitalized words.

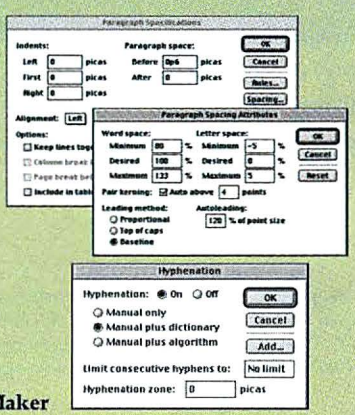
You'll get better results from both programs if you use the hyphenation and justification settings shown here. We set the hyphenation zone to 0 and didn't limit the number of consecutive hyphens, because you usually get better spacing if you give the software leeway to hyphenate liberally and then fix the text manually later. In QuarkXPress, we changed a couple of other settings to give the program more freedom to hyphenate: The smallest word that can be hyphenated has five characters, and the minimum number of letters before a hyphen is three.

This doesn't mean that you must necessarily accept all three-letter word stubs or tolerate long runs of hyphenated lines. But it's better to tolerate more than three consecutive hyphens than to allow bad spacing.

It's OK to leave only two characters at the end of a line in a pinch, but not when they're two narrow letters—the eye can fly right past such pairs as *il-* and *li-* at the end of a line, for example. Bringing only two characters down to the next line is less acceptable, but you can get away with it more easily if the letters are wide (*w*, *m*, and *o* are better than *i*, *l*, and *t*) or if they're followed immediately by large punctuation (a question mark, for example) or a closing parenthesis.



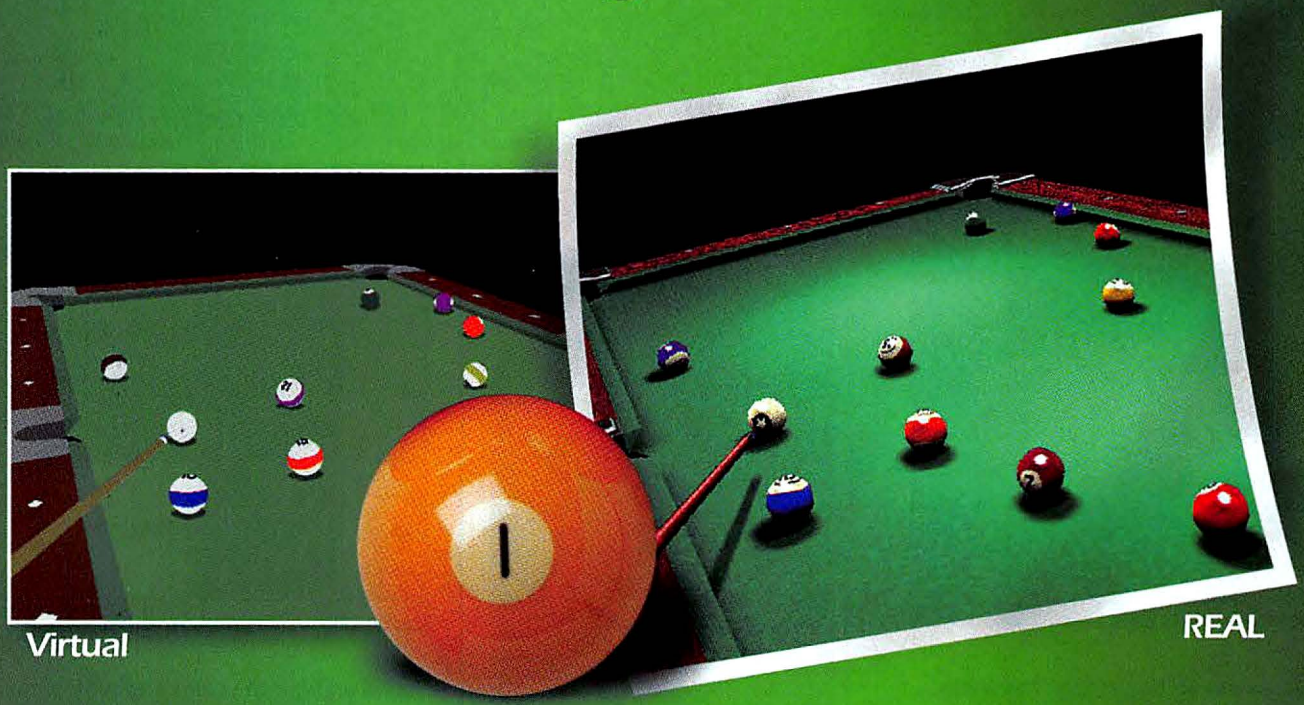

QuarkXPress




PageMaker

# REAL 8 POOL™

## There's nothing virtual about it.




## Photo-Realistic 3D in Real Time

## Includes these Real Pool games:
## Straight•8-Ball•9-Ball•Rotation•Snooker•Spanish•Many more!

**Play against the computer or challenge and chat with your friends over the internet.**

Created by DIGITAL FUSION INC.

Available at Retailers Everywhere!

800-229-2714

Call for a free catalog or visit our website at www.wizworks.com

System Requirements: Macintosh with a 68040 or higher microprocessor, 8MB RAM, color monitor and CD-ROM drive. Also accelerated for Power Macintosh.

MacSoft®

An affiliate of GT Interactive Software Corporation
2300 Berkshire Lane No., Plymouth, MN 55441 • 612-509-7600
Call for a free catalog or visit our website at www.wizworks.com

©1997 Digital Fusion, Inc.

Circle 25 on reader service card

GraphicsUser

**Adobe Photoshop**
Adobe Systems, San Jose, CA
800/833-6687 or 206/628-2749
716/447-7303 (fax)
www.adobe.com

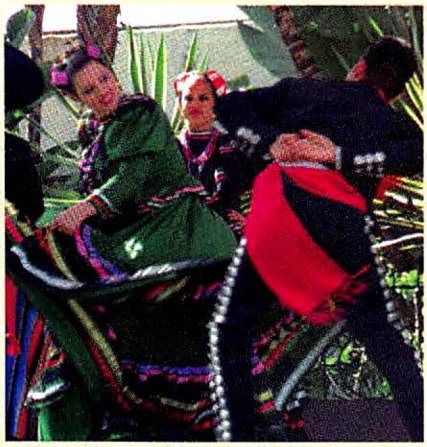
By Sherry London
graphicsuser@macuser.com

# Mixing Color and Gray Scale

Paint visual impact into a gray-scale image by adding color

**As I browse the racks** at my local card shop, there's one line of cards that always catches my eye. It features gray-scale images with a hint of color. Selectively adding color is a marvelous way to create a striking image, but it has other benefits too. Because the color immediately attracts the viewer's attention to certain areas of the picture, you have the opportunity to use images that are less than ideal. Let's say you're laying out a profile of your company's top manager, you have just one photo, and it has too much extraneous detail. By colorizing, say, just the face in the photo, you can force the distracting detail to recede into the background.

The approach we'll take to create a colorized gray-scale effect is simple. Using Adobe Photoshop, select an appropriate image,

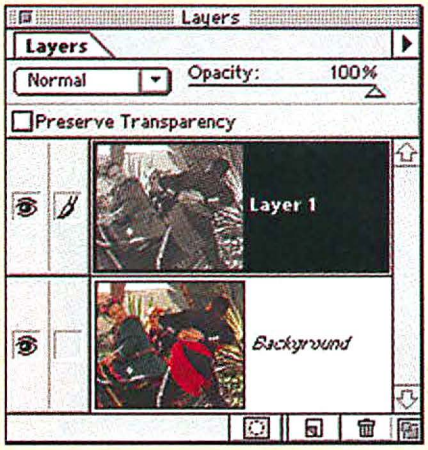


**1 Select an image that has both an area of interest in the foreground and some interesting details in the background.**

There is little point in mixing color with gray scale in an image that has no detail in the background or whose background is already white (unless you want to simply dab color here and there in the image). Prepare the image by cropping it if needed and sharpening and color-correcting it as required. You'll achieve the best results if you begin with as perfect an image as possible.

**2 Create a gray-scale duplicate of the image.**

Create a copy of the prepared image (Image: Duplicate). Change the image to Lab Color mode (Image: Mode: Lab Color). In the Channels palette, click on the Lightness channel. Change it to Grayscale (Image: Mode: Grayscale), and click on OK when the dialog box asks to discard other channels. Even if the image looks a bit flat on your monitor, selecting the Lightness channel tends to create a better gray-scale image when printed. If the image is not going to be printed (say you plan to use it only on the Web), you can adjust the values in the image by using the Curves command (Image: Adjust: Curves) to darken the shadows and lighten the highlights a bit more.




**3 Combine the color and gray-scale versions of the image in one document.**

Drag the gray-scale image on top of the color original while pressing Shift-⌘. The ⌘ key gives you access to the Move tool, and the Shift key used in conjunction with the Move tool makes the gray-scale image snap onto the color image in perfect register, since the two images are the same size. In addition, using drag-and-drop saves RAM because Photoshop does not need to use the clipboard buffer for storage. You now have an image that contains two layers. You may discard the stand-alone gray-scale image.

**Stock Photography Distributor**
Image Club, Calgary, Alta., Canada
800/661-9410 or 403/262-8008
www.imageclub.com

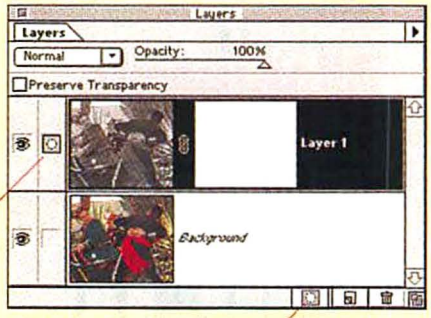
**Stock Photography**
PhotoDisc, Seattle, WA
800/528-3472 or 206/441-9355
206/441-4961 (fax)
www.photodisc.com

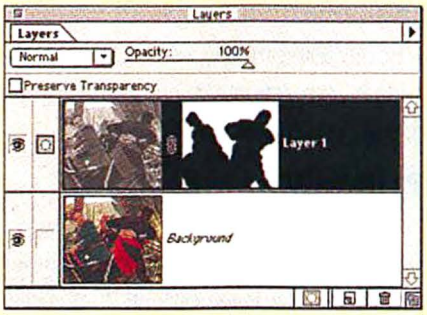
prepare it, change a copy of it to gray scale, layer the image, and then create a layer mask in which you paint the areas that you want to remain in color. When you have finished the layer mask, you can soften the color or blur the background.

By using a layer mask, you gain a great deal of control over the final output. Your new image can display the original color along with the gray scale, or you can choose to pop the color to make it more intense or back off on the color to create a hand-tinted, pastel look. You can opt to let just a hint of color show through the gray-scale areas of the image, or you may decide to make a sepiatone from the gray-scale version and combine that with your color image. Softening the focus of the noncolor areas adds a depth-of-field blurring that further highlights the important parts of your final composition.

Although the basic example shown here contains just a Background and Layer 1, there is no reason to limit yourself to two layers (as you will see in step 6). If you want some of the color in the image to be strong and some to be more subtle, create one layer for the intense colors and another for the more muted colors. Create a layer mask for each intensity, and change each layer's opacity to produce the desired effect. There are many more possibilities for this technique that should be fun to discover on your own.

*Sherry London is a graphic artist and a contributing editor for* Computer Artist *magazine. She is the author of* Photoshop Textures Magic *(Hayden, 1997).*




### 4 Create a layer mask.

Change your foreground and background colors to the default (black and white, respectively) by clicking on the small black and white squares inside the colors area on the Toolbox. Create a new Layer mask by clicking on the layer-mask icon. Select the part of the image you want to colorize by painting. You don't actually touch the original image; Photoshop records all of your brush strokes on the layer mask. The original data remains available and uncorrupted.

### 5 Paint on the layer mask to reveal original color areas.

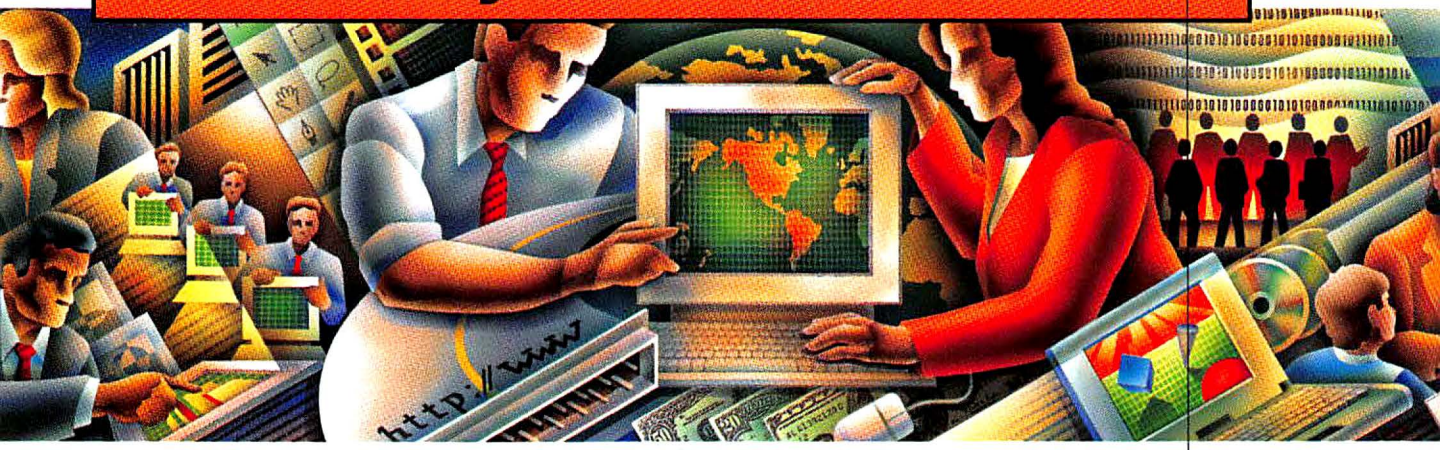
Select the paintbrush, and pick a brush from the Brushes palette (or create one that is the right size and softness for your image). With black as the foreground color, paint over the area you want to show in color. If you make a mistake, press X to paint with white and erase the area you did not mean to paint. Press X again to continue painting with black. (Black hides the image in the current layer; white allows it to be seen.)

### 6 Modify the look through opacity settings and blending modes.

You can leave the image as it is or control the way the color appears. While you have almost endless possibilities, let's look at several modifications you can make.

Double-click on the Background layer to change it to Layer 0. Doing so allows you to adjust the opacity. Set the opacity to about 80 percent so that the color in the image is a bit lighter. Create a new Background layer by pressing Option as you click on the new-layer icon (just to the left of the Trash Can) at the bottom of the Layers palette. Choose Background as the layer mode in the dialog box that appears. Duplicate Layer 1 by dragging it to the new-layer icon. Click on the image thumbnail in the Layers palette to make the image (rather than the mask) active. A paintbrush icon shows in column two. For the duplicate layer, click on the link icon (it looks like a bit of chain). This unlinks the layer and its layer mask; now apply a Gaussian Blur (Filter: Blur: Gaussian Blur) of about 10.0 (less if your image is small). Because of the layer mask, only the background of the image looks blurred. Drag the duplicate layer so that it's now beneath Layer 1 in the Layers palette, and change the opacity to about 85 percent. This lets some of the original color show through (or will in a moment). Make Layer 1 active, and change its opacity to 15 percent. Change the Blending mode to Multiply. By fiddling with the opacities of the two gray-scale layers, you can change the amount of color that shows through and the sharpness of the background image.

# The industry's solution showcase




You depend on the Macintosh to get work done faster, to stay connected with colleagues and friends, and turn your best ideas into action. Which is why you can't afford to miss the largest event that brings you the world of the Mac.

## Hundreds of New Products and Industry Insights!

Only at MACWORLD Expo can you see and try thousands of products first-hand... learn from Macintosh experts through conferences and keynotes... talk with other Macintosh users and vendors... and stay on top of new developments that could impact your buying decisions. You'll gain valuable insights into how innovative companies are unleashing the power of the Macintosh OS.

## Come evaluate cost-saving solutions for:

- Publishing, entertainment and multimedia
- Web site design and Internet navigation
- Networking, intranets and enterprise-wide connectivity
- Education and R&D
- Business and telecommuting

## Make plans to attend MACWORLD Expo today!

If the Macintosh is part of your business, MACWORLD Expo is your lifeline. MACWORLD Expo is the industry's premier Macintosh event, and dramatic software introductions scheduled for 1998 may make this year's event the most exciting ever. Gain new insights into the future world of Macintosh... see the hottest and coolest new products... and get the inside view of the Macintosh OS platform. Register to attend today.

Owned & Produced by:

IDG WORLD EXPO

Managed by IDG Expo Management Company

Sponsored by:

Macworld

MacWEEK

**For Details:**

**www.macworldexpo.com**

**or 800.645.EXPO**

# Macworld EXPO

**san francisco**

**new york**

NEW!

## Macworld/Pro Conference

**The Macintosh Professionals Conference only at: MACWORLD Expo/San Francisco and New York.**

**Please send more information on MACWORLD Expo**

❑ San Francisco ❑ New York

❑ Attending ❑ Exhibiting

MCW

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone _____ Fax _____

email _____

Mail to: MACWORLD Expo, 1400 Providence Highway, P.O. Box 9127, Norwood, MA 02062. Or Fax to: 781-440-0363

**THIS IS NOT A REGISTRATION FORM.**

**Browserwatch**
Stay on top of the latest versions of every Web browser by visiting this comprehensive site:
http://browserwatch.internet.com



By Jason Snell
jason@macuser.com

# Walking the Browser Tightrope

## You can't please everyone—but if you want a Web audience, you should at least try

**CHOOSING WHAT'S HOT** and what's not on the Web—whether it's an HTML tag, a plug-in, or even a Web browser—is a tough decision. It's one that Webmasters and Web authors working in the trenches have to make every day. If they make the wrong decision, they risk turning away half their audience.

### The Web Before Gates

The day the first Netscape beta appeared, back in 1994, the Web game changed forever. Before Netscape, there were so few HTML tags and browsers that Web authors didn't have many choices to make—they just used the available tags. But Netscape rose to prominence by giving those chafing Web authors new tags that allowed them to create more-attractive pages. And since those pages looked so much better in Netscape than in Mosaic, most people started to use Netscape. An Internet upstart was born.

As Web authors started using more and more tags, pages designed for use in Netscape started to look worse and worse—or break altogether—in Mosaic, Lynx, and other browsers. Web designers had to start walking the tightrope they continue to walk today, trying to make their pages look as cool as possible in the latest browsers while still making them readable by the widest possible audience.

Then Bill Gates, who has more money than Oprah, decided to try to crush Netscape, forcing Web designers to choose between creating pages that will look good in Netscape Navigator and those that will shine in Microsoft Internet Explorer. Microsoft and Netscape keep trying to one-up each other by adding a snazzy new feature that also happens to be totally incompatible with the competition's similar snazzy new feature.

Illustration · Barbara Pollak

### Refuse to Be a Victim

Although it takes some restraint and a lot of patience, you can create a page that looks pretty good in both Navigator and Internet Explorer—and you should. For the foreseeable future, people are going to come to your Web site with both browsers. That's important to keep in mind, because once you're lucky enough to find a Web audience, the last thing you want to do is turn away a big portion of it because it's not using your favorite browser.

If you hand-code a lot of your Web site by using a tool such as Bare Bones Software's BBEdit, being compatible means taking the extra time to check every page you create in both browsers. Preferably try out your pages with the last few versions of each browser.

If you use visual Web authoring software, such as Adobe PageMill or GoLive CyberStudio, you should be sure to check your documents with both browsers and complain to the tool's maker if it generates code that one or the other browser renders badly.

### The Struggle to Fit In

Exciting new features of the Web will usually cause you the most trouble. For example, toying with Dynamic HTML, using a plug-in, running a Java applet, or embedding a JavaScript in a Web page are all acts that can lead to compatibility problems. With a plug-in, you can have compatibility problems no matter what browser your Web-site visitors use, since they may not have the plug-in installed, may be using a different version of the plug-in from the one you do, or may even be using a different plug-in that also handles the type of data you put on your page.

Simple elements, such as HTML tables, can also be interpreted in wildly different ways, even by different versions of the same browser. For example, I've discovered that a table that looks fine in Internet Explorer and past versions of Netscape Navigator doesn't look right in Netscape Communicator 4.0 (it has overlapping columns, which should be impossible for an HTML table).

If you think this sort of inconsistency makes it hard on Web authors and the developers of Web authoring tools, you're right. Not only must Web authors keep a catalog of HTML inconsistencies in order to avoid designing an Internet Explorer–only or Netscape-only page but they've also got to become experts at finding workarounds for mistakes that aren't their fault. Authoring tools such as NetObjects Fusion have had to have ridiculous workarounds, such as littering every page with dozens of invisible GIF images, in order to get pages to be truly WYSIWYG in most browsers.

### Duty Bound

All of us have to be vigilant and make sure our little corner of the Web stays compatible with as many browsers as possible. But at the same time, Microsoft and Netscape need to step back from their feature war for a minute and focus on making their browsers compatible with one another in as many ways as possible. After all, even the coolest feature isn't much use if half the people on the Web can never see it.

*Mr. Blackwell (www.mrblackwell.com) says Macworld Senior Associate Editor Jason Snell looks best when viewed in Internet Explorer 4.0.*

**Apple Computer**
Cupertino, CA
800/538-9696 or 408/996-1010
www.apple.com

**Connectix**
San Mateo, CA
800/950-5880 or 415/571-5100
www.connectix.com

By Scott Bury
smartuser@macuser.com

# Have Mac, Will Do Windows

## Rather than part with your Mac, teach it to do Windows

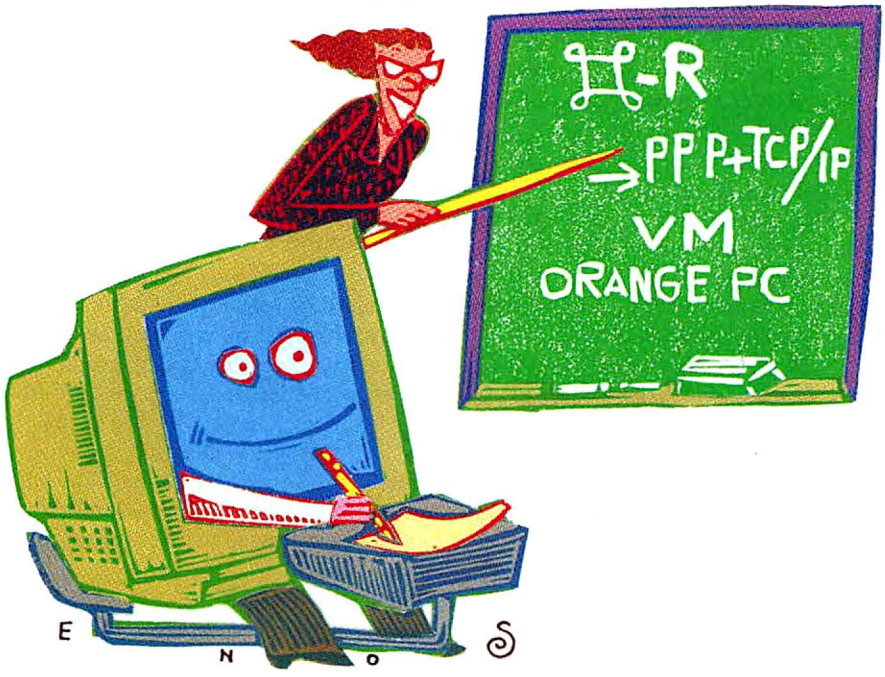



Illustration · Randall Enos

**YOU DON'T HAVE TO** give up your Mac, your investment in Mac software, or your Mac experience just because your boss or your most important clients insist that you accommodate their devotion to the Windows operating system. There are several ways to perform your duties in Windows without giving up your most productive tool. If you're lucky, all you'll have to do is use cross-platform applications or file-translation software. If you're not so lucky, you'll have to use Windows-only software, such as Microsoft Access or Computer Associates' ACCPAC. In that case, your best option is to emulate Windows on your Mac.

Since installing Windows on a Mac is not a matter to be treated lightly, let us help you decide whether it's best to use software or hardware to emulate Windows on your Mac. We also offer some tips on using Windows emulation (both hardware and software) that could save you a lot of hassle.

### See Windows through Software

At about $200 or less, software emulation is the least-expensive way to go, but for some people it's not worth the savings. It can be irritatingly slow—there's a noticeable typing lag, and commands require at least a second to take effect. So we recommend it to those who only occasionally have to run a Windows application. It's not ideal for everyday use.

At press time, there were two programs to choose from: SoftWindows, from Insignia Solutions, and Virtual PC, from Connectix (go to the Macworld online site at www.macworld.com to see reviews of both these products in the *Macworld* and *MacUser* archives). Both programs recreate the Windows environment within your Macintosh. You can run any Windows software, as long as you have the RAM, a PowerPC-based Mac, and enough disk space.

### SoftWindows

If software emulation seems like a good fit for you, go ahead—buy it, and install it. But before you go too far, here are a few tricks to help you avoid some problems we ran into with SoftWindows.

· **Optimize Your Hard Disk.** Do this before installing any software or hardware emulation product. They require a big chunk of space on your hard disk (at least 250MB).

· **Install the Software Correctly.** Don't try what we first did: We installed SoftWindows 3.1 and then upgraded it with the real Windows 95. While this can be done, it takes an awfully long time and the result is a very slow operating system—about one third as fast as what you get if you do it the right way. The right way to do it is to install SoftWindows 95 directly.

· **Give It Lots of Memory.** A good amount of RAM to dedicate to SoftWindows is 24MB. It's best to use real RAM, since SoftWindows doesn't work with RAM Doubler and sometimes won't even work with Apple's Virtual Memory.

· **Speed Up Launches.** Use SoftWindows' TurboStart option to reduce launch time. It saves your current settings when you quit so that the next launch takes less than a minute. To make

**Insignia Solutions**
Santa Clara, CA
800/848-7677 or 408/327-6000
www.insignia.com

**Orange Micro**
Anaheim, CA
714/779-2772
www.orangemicro.com

**Radius**
Sunnyvale, CA
800/572-3487 or 408/541-6100
www.radius.com

TurboStart work, select Shut Down from the Start button menu in Windows—don't select Quit from the File menu in the Mac environment.

· **Make More Room for Windows.** SoftWindows comes with Hard Disk Expander (see figure 1), software that makes it easy to increase the amount of hard-disk space you allocate to SoftWindows. To use it, you must quit SoftWindows and then double-click on Hard Disk Expander.

· **Thaw a Frozen Pointer.** If you can't move the Windows pointer with your mouse, then use the Mac's pointer to select the Setup menu and Emulate PC Mouse. Use ⌘-R for the right mouse button.

· **Avoid Floppy Jams.** Make sure you don't have a floppy disk in the drive when you launch SoftWindows, or you'll have to eject it with a paper clip. CDs don't seem to have the same problem.

· **Connect to the Internet the Easy Way.** If you want to use SoftWindows to connect to the Internet, keep in mind that peripheral devices, such as your modem, connect through the Mac OS. You can opt to set up the modem and Internet connection through the Windows control panel under the Settings menu. However, it's much easier to use the SoftWindows Setup menu to route your Windows browser and e-mail connection through the Mac's PPP and TCP/IP utilities. This method is slow, but it's seamless and reliable.

## Virtual PC

Using Virtual PC is similar to using SoftWindows, but there are enough differences that we've included some tips to help you take advantage of this software specifically.

· **Run More Software.** Virtual PC doesn't seem to have the problem with Virtual Memory (VM) that SoftWindows does. That means you can use VM to increase your memory enough to run RAM-hungry Mac programs and RAM-hungry Windows programs at the same time. Be warned, however, that using VM may slow you down.

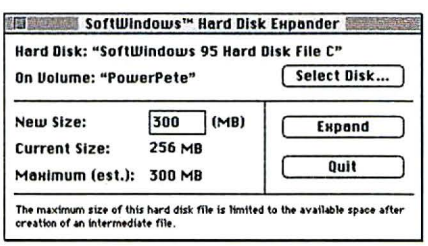



*figure 1 • You're bound to need more disk space for Windows applications and files at some point. Of all the emulation software and hardware, SoftWindows gives you one of the easiest ways to allocate more space, using Hard Disk Expander.*

· **Speed Up Windows.** Don't try to run two memory-hungry Windows programs at the same time through Virtual PC. Even if you have lots of real RAM, running them simultaneously is likely to make processing painfully slow.

· **Get Modem Help.** Unlike SoftWindows, Virtual PC controls your modem directly rather than filter commands through your Mac. This means you have to set up the modem through a Windows control panel. Unfortunately, you won't get much help from the manual. Rather than get frustrated trying to figure out Windows modem settings, call your Internet Service Provider's technical support for help.

## Throw Hardware at It

Software emulation is functional but slow. If you need to work frequently in Windows, you're better off spending the extra money for a Windows-emulation card (which goes into an expansion slot in your Mac). At press time, there were three PCI expansion cards that put a Windows computer into your Macintosh: Apple's PC Compatibility Card ($1,049), Orange Micro's OrangePC Coprocessor (starting at around $700, depending on what's installed on the card), and Radius's Détente card (Radius has a range of cards that start at $700).

The main advantage to using hardware emulation is that it gives you a real PC. It's a lot faster, and you'll have fewer problems installing new applications and utilities.

The main disadvantage of the hardware approach is that you can buy a midlevel Pentium PC for about the price of some of the cards. It's up to you to decide whether the convenience of having two machines in one is important or if you'd rather make space for a second computer.

If you decide to install a PC-emulation card, these tips on using the cards could make your life easier.

· **Buy More Windows Real Estate.** Once you allocate hard-disk space to Windows, using the software that comes with the emulator cards, you are unable to increase that space. (Unlike SoftWindows, the cards don't come with Hard Disk Expander software.) Instead, you can create another file to serve as a D: drive or second hard disk.

· **Switch Quickly.** The handy keyboard shortcut for switching between Windows and Mac environments is ⌘-Return. You can use it if you have the Apple or Radius cards. However, with the Orange Micro card, you must launch the OrangePC application in the Mac environment and then use ⌘-D to get to Windows.

· **Find Missing Files.** It's easy to share files between the Mac OS and Windows, but it's possible that some files might seem to disappear. If you're not able to open a shared file from within an application, try dragging the file from Drive F: (the drive that receives shared files) to Drive D:. That may make it magically appear.

· **End a Freeze.** If you get stalled for more than a couple of minutes while you're shutting down Windows, you can hit ⌘-Return to get to the Mac environment and then choose Shut Down PC from the PC Setup control panel. It won't shut down Windows properly, but it may be your only option.

· **Identify Problem Programs.** If you're using the Apple card and have a Windows application that simply refuses to launch, it could be that the application won't work with this particular card. For instance, we couldn't get Microsoft Internet Explorer to work. If you have the same problem, check the application's manual to see if it requires 32-bit memory addressing. If so, the Apple card can't support it because the card has only a 16-bit bus. (Apple promises an upgrade soon.)

· **Speed Up Printing.** If you have the Orange Micro card, you can speed up printing: Use its LPT1 connector to connect directly to a printer, and select LPT1 from the Windows Printers folder.

## A Tip about Tips

Our tips are mainly aimed at helping you use whichever emulation product you choose, but we hope they'll also help you decide what to buy. They may make it clearer what specific snags you'll run into when using either type of emulation product.

*Scott Bury is a writer and editor based near Toronto, Canada, who finds it much easier to install Windows on a Mac than to hang wallpaper in his house.*

*Write to* ***Quick Tips***
*c/o Macworld*, 501 Second St.
San Francisco, CA 94107
quicktips@macworld.com

Illustration · Bob Staake

By Bob LeVitus and Christopher Breen

# Help Folder

## Mac OS 8's new Contextual Menus and View Options, and your very own slide show

### Those Cool Contextual Menus

**Mac OS 8's Contextual Menus are by far its best new feature. But I want more. Is there a way to customize them? I'm not afraid of ResEdit if it's necessary.**

Richard Gnossis, via the Internet

**Bob:** ResEdit won't be necessary, because there are already a bunch of cool Contextual Menu utilities available. For example, I'm using freeware called FinderPop, a slick Mac OS 8–only control panel by Turlough O'Connor that adds various submenus to the Finder's Contextual Menus. These include a Processes submenu; a Contents submenu (allowing you to see the contents of a folder you've selected in the Finder); and of course, the FinderPop submenu. FinderPop displays everything inside a special FinderPop Items folder—much like the Apple menu displays everything inside the Apple Menu Items folder—when you click on a volume (see figure 1).

**Chris:** Or try Mark Aiken's $15 shareware control panel PowerMenu. It costs more but does a whole lot more than FinderPop. And as an added bonus—pay attention here if you have an older Mac or haven't yet upgraded to Mac OS 8—PowerMenu brings all the fun of Contextual Menus to System 7 users.

**Bob:** And if you're as crazy about Contextual Menus as we are, you'll love the CM Central Web site (www.interdesign.ca/cmcentral/), the premier location for Mac OS 8 Contextual Menu plug-ins.

### No Room for Views

**I find it very frustrating that unlike System 7.5.x's, OS 8's View Options doesn't let you globally change your list options—show or hide Relative Date, Date Modified, Size, and Kind, for example. Do you know of any way to do this?**

Jeffrey Campo, via the Internet

**Chris:** As much as I adore OS 8, I've got to say that Apple really dropped the ball on this one. Sure, it's lovely that you can adjust views for windows individually, but being able to do so globally is just as important—maybe more so.

**Bob:** Why Apple removed this feature, I'll never know. Unfortunately there's no easy way to set views globally—and no, using the old Views control panel from 7.5.x or 7.6.x won't work. But if any enterprising shareware author would like to come up with a solution, we'd love to see it.

I have a couple of AppleScript droplets I picked up off the Web that can help set views globally, but they're a little kludgy and both require Jon Pugh's collection of scripting additions, Jon's Commands (www.infoworkshop.com/~jonpugh). (For the uninitiated, a droplet is a special type of AppleSript application, or applet, that acts like a drop box onto which you can drag files to have some kind of operation performed on them.)

The first is John Blackburn's SetViewOptions, an AppleScript droplet that changes the view options for each folder contained within the folder you drag and drop onto the droplet. Changing view settings requires that you open the droplet in AppleScript's Script Editor and edit the droplet's script. Instructions for editing the script are included in the SetViewOptions documentation.

The second droplet is Garth Martin's OS 8 Views Setter v2.0. Unlike SetViewOptions, this droplet pops up a series of yes-or-no dialog boxes—"Use relative date?" for instance—to set views.

Problem is, both scripts are slow.

**Chris:** I've got to agree. Although the scripts work, they're hardly swift. While looking for an alternative, I took the macro route, via WestCode Software's OneClick. Lo and behold, I came up with something a little faster that can change the list view of many folders at one time—but the macro is still kludgy, in that it can't dig down through a parent folder and change all the folders within.

Using OneClick, I attached this script to a new button and placed it in my OneClick Finder palette:

```
On DragAndDrop
  Type Command "O"
  While (Window.Front <> "Desktop")
    SelectMenu "View", "as List"
    SelectMenu "View", "View Options…"
    SelectButton Check "Date Modified"
    SelectButton Check "Date Created"
    SelectButton Check "Size"
    SelectButton Check "Kind"
    SelectButton Uncheck "Label"
    SelectButton Uncheck "Comments"
    SelectButton Uncheck "Version"
    SelectButton "OK"
    CloseWindow
  End While
End DragAndDrop
```

**Bob:** Mighty impressive. What's it do?

**Chris:** When you drag and drop a folder or a group of folders onto the button, it first opens all of the folders. It then marches through each folder in succession and assigns List view to the contents; selects Date Modified, Date Created, Size, and Kind in the View Options dialog box; and closes each folder as it finishes.

To change View Options, open the script in the OneClick Editor and change the status of the Check and Uncheck commands—for example, to view Comments, change "Uncheck" to "Check" in the script outlined above.

**Bob:** Swift. But I still hope we see an easier shareware solution soon.

### Slipping Slide Show

**Do you know of any slide-show software that allows images to be shown at differing intervals? For example, the second picture would appear a minute after the first but maybe the third would pop up 30 seconds after the second.**

Robert Reinhard, via the Internet

**Chris:** Of course, we know of such software. The only remaining question is: Are you willing to pay big bucks for it, or would you prefer to take the more complicated, penny-pinching route?

**Apple's Official Line**
Download the latest updates and additions to your copy of OS 8 from Apple at www.macos.apple.com

**Mac Download**
To download the shareware mentioned in this article, go to www.macdownload.com

## Reader Tip · *Refining America Online*

### Pitching AOL's Pitches

The sales pitches that automatically appear when you log onto America Online can be annoying. Thankfully, AOL has now provided a way to turn them off. Here's how:

Type Keyword: Marketing Prefs, and double-click on Tell Us What Your Pop-up Preferences Are. In the bottom right corner, click on the box next to the item that mentions "special member benefit pop-up offers." Check the box stating, "I prefer not to receive special member pop-up offers from AOL." Other Marketing Prefs include Tell Us What Your Mailing Preferences Are—use this to request that AOL not provide your name to mass-mailing marketers—and Tell Us What Your AOL E-Mail Preferences Are, an option for requesting that AOL not provide your name to mass e-mail marketers.

**Justin Leavens,** via the Internet

**Bob:** Because I know Chris always goes the cheaper way, I guess it's up to me to supply the expensive answer. And that answer is powerful presentation and multimedia software.

If you already own a copy of Microsoft Office, you have one solution at your fingertips: PowerPoint. This presentation package does exactly what you want—allows you to set the amount of time each slide is displayed. Adobe's Persuasion—another presentation package—does this as well.

Although using PowerPoint or Persuasion is the easiest way to achieve your goal, you can instead opt for Apple's HyperCard or Allegiant Technologies' SuperCard. To make a slide show with either of these programs, just paste the pictures you want onto separate cards and write a small script for each card that tells it how long to wait before advancing to the next card.

Of course, there are also two really expensive solutions—Macromedia's Director and Quark's QuarkImmedia—but they each cost around $1,000. Obviously, using Director or QuarkImmedia to create a simple slide show is like buying a Ferrari to drive three blocks to the local Seven-Eleven—flashy, but hardly the best use of your hard-earned money.

**Chris:** An inexpensive shareware slide-show application would be a better choice, but unfortunately, I couldn't find one that satisfies your varying-time requirement.

**Bob:** Ah, but you're one of the Help Folder guys, so that didn't stop you!

**Chris:** You're darned tootin', it didn't! With the help of a macro utility—I used CE Software's QuicKeys for this one—I was able to create a variable-speed slide show in next to no time at all.

For my host applications, I chose Thorsten Lemke's amazing $35 GraphicConverter and Aaron Giles' equally stupendous postcardware, JPEGView. Although it's hardly the main purpose of these utilities, they both sport slide-show components that allow you to advance slides by clicking the mouse button or pressing the Return key. Here's the procedure for creating the macro:

Gather together the pictures you want to display in your slide show—putting them in a single folder is the easiest way to go about it. Then locate the slide-show options for each program. In GraphicConverter, you'll find them by selecting Slide Show from the File menu, clicking on the Options button, and then selecting the Time tab. In JPEGView, select Slide Show Options from the File menu.

For QuicKeys to do its job properly, you must turn off any automatic slide-advance functions in these Options dialog boxes. In GraphicConverter, you click on the "After mouse click" button in the Time dialog box, and in JPEGView, you select "User-controlled" from the left-hand pull-down menu.

Now the easy part: Select Record Sequence from the QuicKeys menu, fire up the slide show, and press Return to advance through all your slides. Once you've reached the end, you'll need to exit the slide show. To do so in JPEGView, type ⌘-period and then ⌘-W. To quit GraphicConverter's slide show, simply type ⌘-period. Finally, select Stop Recording from the QuicKeys menu.

All that's left for you to do now is name the QuicKey, assign a keyboard shortcut to it, delete all those Wait commands inserted by QuicKeys, and insert a User/Timed Pause between all the slides. The User/Timed Pause shortcut is where you specify how long each slide will be displayed on your screen.

When you want to run that slide show in the future, just tell the applications which slides to show, start the slide show, and fire up your QuicKey. Voilà! Timed slide show on the cheap!

*figure 1 • FinderPop freeware beefs up your Contextual Menus in three ways.*

## Reader Tip · *System Software*

### Get Your Files in Order

If you have an extended keyboard, there's a way to place a file or folder at the end of a list that's organized by name—without visibly changing the filename.

Highlight the file or folder name in the Finder, and press the left-arrow key to move the cursor to the beginning of the filename. Then press the Forward Delete key (under the Help key). You won't observe any change in the name, but when you click outside the name field, that file or folder will drop to the bottom of the list.

**Paul Zugnoni,** via AOL

**Bob:** With this column, our work is done here.

**Chris:** And as sorry as we are to go, we'd like to take this opportunity to thank our ever faithful Help Folder readers.

**Bob:** So, as Chris makes the appropriate sound effects in the background . . .

**Chris:** . . . clip, clop, clip, clop . . .

**Bob:** . . . we will ride slowly off into the sunset.

**Bob & Chris in unison:** Thanks! Good night! You've been a beautiful audience!

*Bob LeVitus is the author of* Mac OS 8 for Dummies *and is the Mac columnist for the* Houston Chronicle. *Christopher Breen recently coauthored* The Macintosh Bible Guide to Games, *published by Peachpit Press.*

# MORE POWER FOR
# DIRECT

## Elite 1212

- 1200 x 1200 dpi resolution
- 12 pages per minute
- 1 year Platinum Exchange Warranty
- Letter, legal, A4, envelope
- Maximum print area: 8.5" x 14"
- 250 sheet Universal Tray
- PostScript® Level 2 compatible, PCL 5
- 80 PostScript fonts, 15 PCL fonts
- 8MB RAM expandable to 64MB

**Connectivity:**

- Ethernet® (10 BaseT, 10 Base2)
- EtherTalk, TCP/IP, NetWare®
- Parallel, LocalTalk®, RS422 Serial

| | |
|---|---|
| Extra Universal Tray | Add $129 |
| Second Paper Feeder (Includes 500 sheet Universal Tray) | Add $399 |
| Envelope Cassette | Add $129 |
| Extra 8MB memory** | Add $89 |

# $1399

**Business Lease: $66/Month**

**BACKED BY GCC'S EXCLUSIVE PLATINUM EXCHANGE℠ PROGRAM**

# YOUR PRINTER DOLLAR. FROM GCC.

For over a decade, GCC Technologies® has been a leader in laser printer technology satisfying the extremely demanding output needs of graphic arts professionals. Now GCC takes that expertise and applies it to a new line of business printers.

Introducing the Elite 1212,™ the Elite XL 608 LC,™ and the Elite XL 616.™ Printers that deliver the output quality, reliability, flexibility and value your business demands. GCC printers offer you multiple printing options specific to your business' needs. So whether you require 8.5" x 11" or 11" x 17" output (ledger), GCC has a solution for you.

When you purchase your printer directly from GCC, you receive advanced laser technology at affordable prices. All printers purchased directly are backed by our exclusive Platinum Exchange Program which virtually eliminates downtime.

More power and Platinum Exchange. Only from GCC.

## Elite XL 608 LC

- 600 x 600 dpi resolution
- 8 pages per minute
- 1 year Platinum Exchange Warranty
- Ledger, letter, legal, A4, envelope
- Maximum print area: 11" x 17"
- 250 sheet Universal Tray
- PostScript Level 2 compatible, PCL 5
- 80 PostScript fonts, 15 PCL fonts
- 8MB RAM expandable to 64MB

**Connectivity:**

- Ethernet (10 BaseT, 10 Base2)
- EtherTalk, TCP/IP
- Parallel, LocalTalk, RS422 Serial

| | |
|---|---|
| Extra Universal Tray | Add $129 |
| Second Paper Feeder* (Includes 250 sheet Universal Tray) | Add $319 |
| Second Paper Feeder* (Includes 500 sheet Letter Tray) | Add $419 |
| Extra 8MB memory** | Add $89 |

**$1799**

**Business Lease: $86/Month**

## Elite XL 616

- 600 x 600 dpi resolution
- 16 pages per minute
- 1 year Platinum Exchange Warranty
- Ledger, letter, legal, A4, envelope
- Maximum print area: 11.69" x 20"
- 250 sheet Universal Tray
- PostScript Level 2 compatible, PCL 5
- 80 PostScript fonts, 15 PCL fonts
- 8MB RAM expandable to 64MB

**Connectivity:**

- Ethernet (10 BaseT, 10 Base2)
- EtherTalk, TCP/IP, NetWare
- Parallel, LocalTalk, RS422 Serial

| | |
|---|---|
| Extra Universal Tray | Add $129 |
| Second Paper Feeder* (Includes 250 sheet Universal Tray) | Add $319 |
| Second Paper Feeder* (Includes 500 sheet Letter Tray) | Add $419 |
| Extra 8MB memory** | Add $89 |

**$2199**

**Business Lease: $106/Month**

*The Elite XL 608 LC supports one optional paper feeder. The Elite XL 616 supports two additional paper feeders.
**Please call for pricing on additional memory configurations.

GCC Technologies is a registered trademark of GCC Technologies, Inc. Elite 1212, Elite XL 608 LC, Elite XL 616, and Platinum Exchange are trademarks of GCC Technologies, Inc. All other trademarks or registered trademarks are trademarks of their respective companies.

## Service. Satisfaction. Guaranteed.

**Platinum Exchange.**
Every GCC printer purchased direct is backed by our exclusive Platinum Exchange Program. If anytime during the warranty period a printer problem can't be resolved through GCC Technical Support, we'll send you a replacement printer† overnight. No downtime while waiting for repairs.

**30-day money back guarantee.**
Every printer and consumable is fully backed by our unconditional, no-questions asked, 30-day money back guarantee.

**One full-year warranty.**
Every GCC printer is protected by a minimum one year parts and labor warranty. And, yearly extensions are available.

**FREE unlimited technical support.**
throughout the warranty period. GCC Technologies is on call for you at 781-276-8620, Monday through Friday, 9 AM to 8 PM (et) or by EMail: support@gcctech.com.

† Shipping and handling will be reimbursed only if product is defective.

GCC TECHNOLOGIES

**To order, Toll Free**

**1-800-422-7777**

Mon-Fri 9 AM to 8 PM (Eastern Standard Time)
Sat 10 AM to 4 PM (Eastern Standard Time)

**www.gcctech.com**

Keycode 801MWC

**Forbidden Books and Video**
Psst . . . hey you, looking for some naughty books, videos, comic books, and audio CDs? Check out www.hotweird.com/forbidden

# The Forbidden Mac

## Software Mom may disapprove of

By Christopher Breen
maxuser@macuser.com

**MY PARENTS BELIEVED** that children who stepped outdoors barefoot between the months of October and May would contract pneumonia. They were likewise convinced that if my impressionable young mind were exposed to the wicked antics of the Three Stooges for even a single afternoon, I'd spend the better part of my adult years hewing rocks in the State Pen. Hence my impatience to grow up, leave home, expand my horizons—in other words, try everything my parents would heartily condemn.

I'm all grown up now, but my rebellious streak still survives. And thanks to modern computing, I can feed the rebel in me and dabble in The Forbidden without ever leaving the safe confines of home. Feel the need to be naughty? Join my stroll through the mildly mean streets of Macintosh software.

Illustration - David Ricceri

### Sex

Seeking the taboos of my childhood rather than those of my adulthood, I skipped the adult-entertainment products advertised in the back of some computer magazines. Instead, I began my journey down the prohibited path with Cambrix Publishing's comparatively chaste **Swimwear Illustrated** (♦♦½, $23.98 list).

The cover dared me to "get interactive with supermodels," so imagine my heartbreak in discovering that the interactivity was limited to the lame exercise of watching one model's face morph into another.

The rest of the CD-ROM is devoted to pictures of young women thrusting out one hip or the other while dressed in skimpy swimwear. If this is your idea of hot stuff, you may find the annual *Sports Illustrated* swimsuit edition or a subscription to *Swimwear Illustrated* magazine a better investment.

### Drugs

Considering the drug education I received at school and home, I expected simplistic "Just Say No" platitudes from Electronic Vision's **Uppers, Downers, All Arounders** (♦♦♦½, $170 list). But my fears were groundless. This comprehensive CD-ROM addresses substance abuse in an even-handed and informative manner.

It's a text-intensive disc, though, and hardly a multimedia marvel; narration or pictures only occasionally accompany the hyperlinked text. The CD-ROM's real strength lies in its wealth of information—much of it taken from research conducted by San Francisco's highly praised Haight-Ashbury Free Clinic.

Uppers, Downers, All Arounders is too expensive and detailed for home use, but every school and community organization wanting to educate people about abusable substances should have a copy.

### Lies

Married during the early years of the Eisenhower administration, my parents were surely influenced by the mores of the day. To understand my elders' odd admonitions, I felt compelled to dig through the remains of that period of American history, via Voyager's ten-volume series, **Our Secret Century** (♦♦♦♦, $29.95 list each two-volume set).

Five boxed sets contain more than 100 short "educational" films produced in the U.S. during the 1950s and early 1960s. Each set has 6 to 15 films that focus on a

**The Forbidden City**
"Eenie, meenie, chile beenie, the spirits are about to speak . . ." Check out the esoteric arts online at www.interart.net/forbidden/default.html

## The Forbidden Directory

**Cambrix Publishing**
Chatsworth, CA
800/992-8781
818/993-4274
www.cambrix.com

**Electronic Vision**
Athens, OH
800/691-8480
614/592-2511
www.ev.net/fitne

**Multicom Publishing**
San Francisco, CA
415/777-5300
www.multicom.com

**Virtual Knowledge**
Needham, MA
800/301-9545
617/449-7567
www.virtualknowledge.com

**Virtual Training Company**
Santa Clara, CA
888/872-4623
408/492-1051
www.vtco.com

**Voyager**
New York, NY
800/446-2001
212/431-5199
www.voyagerco.com

particular topic—personal hygiene, sex education, or juvenile delinquency, for example. Each film is accompanied by discussions accessed through nicely annotated pop-up notes.

Post–baby boomers will find the films' outdated messages quaint and comic, whereas those who lived through the times may be shocked anyone took such lockstep propaganda seriously. Young or old, everyone will gain insight into the bland, homogeneous culture foisted on post–World War II America.

### Feelings

Emotional self-examination was hardly encouraged around my childhood home, so my sensitive, adult self decided to gauge how I fared against the norm with Virtual Knowledge's **Emotional IQ Test** (♦♦♦, $24.95 estimated street).

Your ability to identify and understand emotions is tested via multiple-choice questions; for example, you're asked to look at an image of someone's face and state which emotions it conveys.

Although I was judged to be highly empathetic and perceptive, the obvious nature of the questions made me wonder what sort of insensitive louse would fail to score well. Also, I had to wonder who would bother to use the software more than once. If you score badly, do you want to hear once more that you're an imperceptive jerk? Although I don't buy the "science" behind it, the Emotional IQ Test is inexpensive enough for entertainment.

### Pulp Fiction

Deprived of the Three Stooges, I took youthful refuge in the pulpy pages of 15¢ comic books. But as I outgrew the Justice League of America and developed a taste for *National Lampoon*, my misguided mother threw away my entire comic-book collection. I paid homage to these days of my misunderstood youth via Voyager's **Comic Book Confidential** ▶ (♦♦♦♦, $39.95 list).

The CD-ROM's centerpiece is Ron Mann's QuickTime-formatted documentary film *Comic Book Confidential*, which traces the development of comic books and their writers from the mid-1930s through modern times. The film, although chronologically presented, isn't a strict history; Mann uses interviews with such key artists as Will Eisner and R. Crumb to flesh out the story.

The disc also has artist biographies and work samples, but hard-core fans may be disappointed by the absence of some favorite artists, such as Matt Groening.

Comic Book Confidential is not for everyone—particularly children and folks offended by adult themes. But being neither child nor squeamish adult, I thoroughly enjoyed it.

### The Black Arts

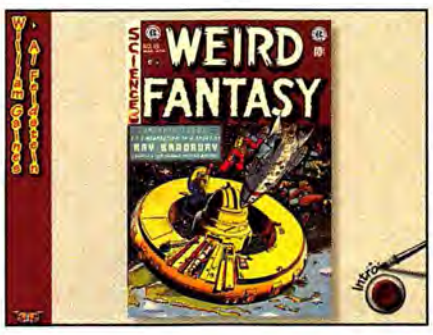
My folks would have frowned on me jeopardizing my immortal soul by dabbling in the psychic realm. And therein lay my inspiration to try out Multicom's **Mystic Discovery Suite** (♦♦♦, $39.95 estimated street), a collection of three CD-ROMs.

The Astrology Source CD-ROM created astrological charts based on the date, time, and place of my birth. Its results were in typical horoscope-speak ("As an ambitious Capricorn you exhibit little emotion, but deep down bear a heart of gold"), but at least the reading was consistent. The Cyber Tarot and Palmistry CD-ROMs, however, had a few consistency problems; I mean, how could I be both disorderly *and* overly tidy?

Mom and Dad are unlikely to lose me to the Covenant of Transcendental Meditators, but the Mystic Discovery Suite's clean interfaces and copious multimedia elements kept me nicely entertained.

### The Seventh Circle

Until this point, I had only flirted with the forbidden. It was now time for a wrenching and chilling foray into the dark territory most feared by Macintosh users: Windows 95, as represented by Virtual Training Company's **Windows 95 Training CD** (♦♦½, $49.95 estimated street).




This hybrid CD-ROM provides a QuickTime introduction to Microsoft's omnipresent operating system. Users of Insignia's SoftPC and Connectix's Virtual PC can pause the CD-ROM's lessons to experiment with Windows 95. The disc gives a decent overview of Win 95's main features, but you'll get less-expensive, more–in-depth help from any of the Windows 95 books.

### Out of the Dark

Despite persistent parental warnings to the contrary, my soul remains largely unscathed after my wicked wanderings. I've survived comic books, bathing beauties, propaganda, and even the dreaded Windows 95. Could it be that Mom and Dad were wrong about everything? Only one way to find out: My shoes are off, and despite threat of barefoot-induced pneumonia, I'm going outside for a walk on the wild side.

Macworld *Contributing Editor Christopher Breen isn't really wicked, he just writes that way.*

# Andy Ihnatko

By Andy Ihnatko
andyi@macuser.com

# Transitions

## Apple's moving on, and so are we

**TODAY, WE SHALL REFLECT** on Change and, perhaps more importantly, on the subject of Transition.

Change, after all, is a lot like History, or Art: You really can't observe it while you're inside it. Only 80 years later do we fully appreciate World War I as senseless prologue. *Soiled Underpants in Jello* might be the buzz of the art world today, but it won't really be Art until a hundred years from now when it's agreed that it's still worth cluttering up the Museum of Modern Art with.

Until the passage of time helps us separate the significant bits from the rest, we're stuck here balanced on these razor-thin moments of Transition that separate the past from the future.

Apple, at this moment, is up to its neck in transition. Let's count them all up. It's transitioning from an old, and in some ways antiquated, OS to Rhapsody. It's transitioning from a goal of a more open Mac OS, with cloning and support for CHRP, to a more closed system. It's transitioning from a strategy that markets the Mac as a have-all, do-all, be-all machine to one that bills it as The Critical Tool for education and creativity.

Apple is also transitioning back to "1984"-style commercials and ads. Well, this I enjoy. Like many of you, I tuned in to watch *Toy Story* there on ABC just to see the megahyped new Apple commercial. After the vaguely confusing series of personalities and quotes faded to the Apple logo, I turned to my friends there in the living room. "So you see," I explained, "we Mac users, we're really a *hell* of a lot like Gandhi." They seemed to see the logic in this—it helped that I was making salt at the time—so score one for Chiat/Day.

Most interestingly, Apple is transitioning back to good–old-fashioned cage-match–style Godzilla Management. Steve Jobs as Godzilla, Larry Ellison as Gamera. No, no, I don't mean that the way it sounds. I mean that they're both big, towering, unmistakable individuals, and when they arrive, they bring excitement with them.

Amelio and his predecessors were more like the Horror of Party Beach and the rest of those rubber monsters wandering through the movies on *Mystery Science Theater 3000*. They don't really think to *do* anything until the hunky lead and the young tomato of a girl reporter drop an A-bomb on them at the end. But Godzilla! Sure, you might not agree with his policies, but you can't say he doesn't keep himself busy!

But it's too easy to let ourselves wallow in this sort of thinking. Rhapsody, from all available evidence, is going to kick major butt, possibly leapfrogging any competition out there. Irrelevant. Rhapsody, it appears, will first be positioned as a server solution, not as a severe Pantsing to anyone running another operating system. Irrelevant. Clone licensees are no longer here to fill the role of the quick and agile organizations getting the hottest technology to the marketplace with Indy-car swiftness and agility. Will Apple still be able to claim that the fastest PCs on the planet run the Mac OS? Irrelevant. Apple is producing some of the best price/performance machines on the market. It's finding a place for Newton Technology again. Network Computers, though as-yet unproven, can be marketed by the technology's most powerful cheerleader, and they can be marketed under an Apple logo. Steve Jobs has switched from his Pixar wire-rims to contact lenses.

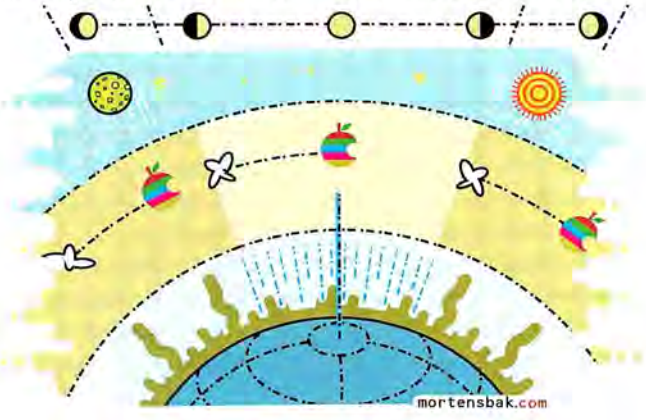



Illustration - Jack Mortensbak

All irrelevant.

This is mere transition. It's time for us to stop worrying; to stop fetishistically charting Apple's progress as a series of changes and turmoils, of Events that may or may not affect stock performance.

We should return to that time when we didn't give a damn. To 1984, when the Mac was an unproven and unpopular machine with too little memory, no software, and one floppy drive for everything. To 1984, when on top of everything else, it was way too expensive. To 1984, when all we felt needed be said was "I use a Macintosh because it's the best there is at what I do." If I have to leave you with one thought, that's it.

### Fade to Black

Which sort of brings us to the last bit of Transition: namely, of course, the transition of *MacUser* and *Macworld* into a new, unified magazine built from selected elements of both mags. Sadly, this is the last time I'll have the opportunity to address *MacUser*'s readership en masse. I hope you understand how sincerely grateful I am that you've all been kind enough to give me your attention on a monthly basis for the past eight years. I am gratified that y'all had as much fun as I did. Special thanks to all of you who took the time to write; every letter and e-mail was appreciated. And to that guy who told me two years ago that his sweetie enjoys my writings so much that he reads them to her every month as foreplay, your message is still pinned to my wall and if there's anything I can do to ease this moment of Transition for you and Angie, my address remains andyi@world.std.com.

As the wise man said late at night a few years ago, I hope we all meet again some day, even though I'll be someplace else when we do.

# Macworld Advertiser Index

Say you saw it in Macworld. To purchase products advertised in this issue call the phone numbers below or use the reader service number for our Product Information Card located after the product index.

| Page No. | Advertiser | Reader Srvc. No. | Phone |
|---|---|---|---|
| 32 | Adaptec | — | — |
| 54 | Agio Designs | | 800-688-2466 |
| 62 | Alsoft | 140 | 800-257-6381 |
| 49 | American Power Conversion | 72 | 800-788-2208 |
| 4 | Anthro | — | 800-325-3841 |
| 9 | ATI Technologies | 256 | — |
| 139 | Bottom Line Distribution | 37 | 800-990-5688 |
| 140,141 | Club Mac | 96 | 800-CLUBMAC |
| 152,153 | Computer Discount Warehouse | 2 | 800-509-4239 |
| 18,19 | Connectix | 192 | — |
| 15 | Denaba Software | 57 | 800-733-6322 |
| 16 | Diehl Graphsoft | 46 | 410-290-5114 |
| 151 | Digital Graphix | 36 | 800-680-9062 |
| 45 | Epson America | — | 800-BUYEPSON |
| 66,67 | Epson America | — | 800-BUYEPSON |
| 97 | Extensis | 13 | 800-796-9798 |
| 85 | Farallon Computing | — | 510-814-5000 |
| 91 | Fujitsu Computer Products of America | 202 | 800-626-4686 |
| 55 | Hitatchi NSA | 74 | 800-441-4832 |
| 53 | Infowave | 32 | 800-663-6222 |
| 7 | IXMICRO | 53 | 888-467-8282 |
| 154,155 | J & R Computerworld | 282 | 800-221-8180 |
| BC | Kensington Microware Ltd. | 12 | 800-535-4242 |
| 5 | Kingston Technology Corporation | 201 | 800-435-0677 |
| 142 | L. A. Trade | — | 800-433-3726 |
| IFC,1 | La Cie | 52 | 800-999-1332 |
| 47 | Mac Academy | 106 | 800-527-1914 |
| 156 | Mac Connection | 145 | 800-800-3333 |
| 146,147 | Mac Mall | 131 | 800-222-2808 |
| 61 | Mac Soft | 28 | 800-229-2714 |
| 63 | Mac Soft | 23 | 800-229-2714 |
| 65 | Mac Soft | 29 | 800-229-2714 |
| 92 | Mac Soft | 40 | 800-229-2714 |
| 116 | Mac Soft | 39 | 800-229-2714 |
| 119 | Mac Soft | 30 | 800-229-2714 |
| 121 | Mac Soft | 25 | 800-229-2714 |
| 148,149 | Mac Warehouse | 150 | 800-434-3035 |
| 51 | Maxell Corporation of America | 120 | — |
| 150 | MegaHaus | 229 | 800-786-1184 |
| 34,35 | MetaCreations | 5 | 800-846-0111 |
| 59 | Microtek Labs, Inc. | — | 800-654-4160 |
| IBC | Multi-Ad Services | 187 | 800-447-1950 |
| 29 | NEC Technologies | 019 | 800-NEC-INFO |
| 8 | Orange Micro | 33 | 714-779-2772 |
| 86 | Panasonic Communications Co. | 60 | — |
| 158 | Pro Direct | 135 | 800-524-9952 |
| 10,11 | Ricoh | 4 | — |
| 36,37 | Sony | — | 888-552-7669 |
| 57 | Symantec-Visual Page | 151 | — |
| 113 | Tektronix | — | 800-835-6100 |
| 159 | The LLB Co. | — | 800-848-8967 |
| 143-145 | The Mac Zone | 71 | 800-436-0606 |
| 76,77 | Umax Computer | 100 | 888-625-UMAX |
| 20,21 | ViewSonic | 59 | 800-888-8583 |
| 6 | VST Tecnologies | 73 | 508-263-9700 |

# Macworld Product Index

A quick and easy product index from Macworld. Simply use this index to find the page or advertiser of the products which interest you. Then, use the reader service number for our FastFacts Product Information Card located on the following page.


| Page No. | Advertiser | Reader Srvc. No. |
|---|---|---|
| **SOFTWARE** | | |
| **CAD/CAM** | | |
| 16 | Diehl Graphsoft | 46 |
| **GRAPHICS/DTP** | | |
| 15 | Denaba Software | 57 |
| 97 | Extensis | 13 |
| 53 | Infowave | 32 |
| 34-35 | MetaCreations | 5 |
| IBC | Multi-Ad Services | 187 |
| 57 | Symantec-Visual Page | 151 |
| **MISCELLANEOUS** | | |
| 18-19 | Connectix | 192 |
| **ONLINE** | | |
| 57 | Symantec-Visual Page | 151 |
| **UTILITIES** | | |
| 62 | Alsoft | 140 |
| 53 | Infowave | 32 |
| **HARDWARE** | | |
| **BOARDS** | | |
| 32 | Adaptec | — |
| 9 | ATI Technologies | 256 |
| 8 | Orange Micro | 33 |
| **COMPUTER SYSTEMS** | | |
| 76-77 | Umax Computer | 100 |
| **DIGITIZERS/SCANNERS** | | |
| 59 | Microtek Labs, Inc. | — |
| **DISPLAY** | | |
| 55 | Hitatchi NSA | 74 |
| IFC | La Cie | 52 |
| 20-21 | ViewSonic | 59 |
| **HARD DISK/STORAGE** | | |
| 139 | Bottom Line Distribution | 37 |
| 91 | Fujitsu Computer Products of America | 202 |
| 5 | Kingston Technology Corporation | 201 |
| IFC | La Cie | 52 |
| **INPUT DEVICES** | | |
| BC | Kensington Microware Ltd. | 12 |
| **MISCELLANEOUS** | | |
| 49 | American Power Conversion | |
| 10-11 | Ricoh | 4 |
| **NETWORKING** | | |
| 85 | Farallon Computing | — |
| **POWERBOOK** | | |
| 140-141 | Club Mac | 96 |
| 6 | VST Tecnologies | 73 |
| **PRINTERS** | | |
| 10-11 | Ricoh | 4 |
| 113 | Tektronix | — |
| 12 | Xante Corporation | 112 |
| **SECURITY** | | |
| 49 | American Power Conversion | 72 |
| **SYSTEMS** | | |
| 151 | Digital Graphix | 36 |
| 139 | Bottom Line Distribution | 37 |
| **SERVICES** | | |
| 47 | Mac Academy | 106 |
| **ACCESSORIES** | | |
| **FURNITURE** | | |
| 54 | Agio Designs | |
| 4 | Anthro | |
| **MAIL ORDER** | | |
| 139 | Bottom Line Distribution | 37 |
| 140-141 | Club Mac | 96 |
| 152-153 | Computer Discount Warehouse | 2 |
| 151 | Digital Graphix | 36 |
| 154-155 | J & R Computerworld | 282 |
| 142 | L. A. Trade | — |
| 156-157 | Mac Connection | 145 |
| 146-147 | Mac Mall | 131 |
| 148-149 | Mac Warehouse | 150 |
| 150 | MegaHaus | 229 |
| 143 | The Mac Zone | 71 |
| **DIRECTORY** | | 191 |

# TWO SIMPLE WAYS TO GET FREE PRODUCT INFORMATION

**Macworld puts you in touch with the information you need most with two easy options:**

## 1 dial 503.684.5370 Fax In Card

Simply fill In the questionnaire, circle the reader service numbers that correspond to the vendors you would like information from, then fax your form to us at 503.684.5370. FREE product information will be sent to you directly from vendors.

## 2 postage pre-paid Mail In Card

After filling In the questionnaire, circle the reader service numbers that correspond to the vendors you would like information from, then just drop the postcard in the mail. Vendors will send FREE product information directly to you.

**Macworld**
THE ESSENTIAL RESOURCE

■ Check this box to subscribe to Macworld

YOU WILL BE BILLED $24 FOR A ONE-YEAR (12 ISSUE) SUBSCRIPTION (US ONLY). SUBSCRIPTION WILL BE SENT TO NAME AS NOTED BELOW. PLEASE CHANGE IF MAILING ADDRESS IS DIFFERENT.

### PLEASE ANSWER THESE QUESTIONS, CHECK ALL ANSWERS THAT APPLY

1a. For which of the following Mac-related products do you specify, recommend, approve, purchase or influence the purchase?

1b. Which of the following do you plan to purchase in the next 12 months? (Check all that apply.)

| | Purchase Involvement | | Plan to Buy |
|---|---|---|---|
| Desktops/PowerBooks | ◯ | 1 | ◯ |
| Monitors | ◯ | 2 | ◯ |
| Printers | ◯ | 3 | ◯ |
| Storage Devices | ◯ | 4 | ◯ |
| Networking/Data Communications | ◯ | 5 | ◯ |
| Internet/Intranet products/services | ◯ | 6 | ◯ |
| Software: business/productivity | ◯ | 7 | ◯ |
| graphics/design | ◯ | 8 | ◯ |
| interactive publishing/ multimedia | ◯ | 9 | ◯ |
| entertainment | ◯ | 10 | ◯ |
| education | ◯ | 11 | ◯ |
| other software | ◯ | 12 | ◯ |
| Any other products | ◯ | 13 | ◯ |

2. Are you employed, and involved in purchase decisions for 5 or more Macs? ◯ Yes (1) ◯ No (2)

3. What's Your Opinion?

What are your main frustrations in making Mac-related purchase decisions?

- ◯ 1. Lack of expertise in assessing products
- ◯ 2. Difficulty in installing or using products
- ◯ 3. Too many choices
- ◯ 4. Not enough choices
- ◯ 5. Unclear needs
- ◯ 6. Concern that cheaper, better products are about to come out
- ◯ 7. Other (please specify) _____

PRODUCT CATEGORY INFORMATION

For information on all of the products mentioned in an article or an entire category of advertised products, circle the appropriate number below.

951 Mail Order Companies
952 Printers
953 Scanner & Digital Cameras
954 Online/Internet
955 Storage Devices
956 Monitors & Graphics Boards
957 Utilities
958 Clip Art & Fonts
959 Memory
960 Draw/Paint/DTP Software
961 Image-Editing Software
962 Other Graphics Software

READER SERVICE NUMBERS FOR ADVERTISED PRODUCTS CAN BE FOUND IN THE PRODUCT'S AD AND IN BOTH THE ADVERTISER INDEX AND PRODUCT INDEX.

| | | |

# TWO SIMPLE WAYS TO GET FREE PRODUCT INFORMATION

Macworld
THE ESSENTIAL RESOURCE

FREE

Macworld puts you in touch with the information you need most with two easy options — fax back or mail in the reader service card.

Fax back. Mail in. Just don't miss out.

*Fold here and close with tape. Do not staple.*

50% TOTAL RECOVERED FIBER
10% POST-CONSUMER FIBER

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

**BUSINESS REPLY MAIL**
FIRST-CLASS MAIL PERMIT NO. 677 PORTLAND OR
POSTAGE WILL BE PAID BY ADDRESSEE

**READER SERVICE DEPARTMENT**
**12950 SW PACIFIC HWY STE 7**
**TIGARD OR 97223-9747**

Special Of The Month

$95
32MB 168-Pin DIMM

$189
64MB 168-Pin DIMM
5 Volt and EDO

XLR8 radius

# BOTTOM LINE DISTRIBUTION

iiyama AGFA

## The *one* source for all your Macintosh needs.

http://www.blol.com/macworld/ **1-800-990-5794**

Prices updated every 30 minutes!

### Media 100 QX Professional Level Digital Video Capture Card

$1969

*Component System $3795

### IX Micro Display/TV PCI Cards

IX Micro 2MB VRAM .....$149
IX Micro 4MB VRAM .....$219
IX Micro 8MB VRAM .....$499
Turbo TV 125-Channel .....$95

### Radius PhotoDV...$479 MotoDV....$579

### ATTO Is SCSI

Ultra SCSI-3 PCI Fast Wide SCSI card W/Drive

$299

### IBM 9.1GB AV $799

Internal.....799
External .....879/929
18GB RAID .....1659

$279

### Agfa SnapScan

AGFA Snapscan 600 .....$385
AGFA Snapscan 600 Artline...$519
AGFA StudioStar For Mac.....$697
AGFA StudioStar For PC.....$697
Agfa Arcus II Mac/PC .....$1569
*AGFA Arcus II *Solo* .....$1279*
AGFA DuoScan .....$4199

### Miro DC30 PCI Digital Video Card

$669

### Magic Yamaha 4x/6x Speed CD-R Drive External $549

*Includes SCSI cable, terminator, Astarte Toast, 1Pc. media*

### PowerBook 2400c/180

$3299

### PowerBook 3400c/240

$4299

### Connectix Virtual PC

$138

## Everyone Needs RAM

*All memory purchased from Bottom Line comes with a hassle free lifetime warranty!*

**DIMMs 168-Pin 5.0/5.5 volt**
*PCI PowerMac, UMAX, Power*
8MB 168-Pin DIMM 60ns .....$29
16MB 168-Pin DIMM 60ns .....$55
32MB 168-Pin DIMM 60ns .....$95
64MB 168-Pin DIMM 60ns ....$189
512k L2 Cache DIMM.....$99
TW 1MB L2 Cache DIMM.....$169
1MB VRAM DIMM .....$31

**DIMMs 168-Pin 3.3 volt**
*Starmax, PowerTools, Apple 4400*
16MB 168-Pin DIMM 60ns .....$69
32MB 168-Pin DIMM 60ns .....$99
64MB 168-Pin DIMM 60ns ....$209
512k L2 Cache DIMM .....$79

**SIMMs 72-Pin**
8MB SIMM 60ns .....$29
16MB SIMM 60ns .....$55
32MB SIMM 60ns .....$95
***256k L2 Cache SIMM .....$15.99***
1MB L2 Cache 61/71/8100 ....$159

**Other Cache/VRAM**
6400/6360 512K L2 Cache .....$99
ATI 2MB VRAM Upgrade ....$89.95
1mb PCI Vram DIMM .....$27.95
512K Cache DIMM .....$99

## Storage/Back-Up

**Sony CD-R Drive** $99

*With Purchase of 100 pices of CDR Media*
*$299.00 w/o media purchase*

Quantum Fireball 2.1GB .....$249
Quantum Fireball 3.2GB .....$339
Quantum Fireball 6.4GB .....$489
Quantum Atlas II 4.3GB .....$796
Seagate Barracuda 4.55GB.....$851
Cheetah 4.55GB/9.1GB..$899/$1447
Sony Sony DDS-3 SDT-9000 ....$1249
SyQuest SyJet 1.5GB External....$389
IBM Ultrastar 4.3GB F/W .....$399
IBM 9.1 GB 10K RPM AV .....Call

## Digital Cameras

**Kodak DC210 $879.00**

Kodak DC 120 Camera .....$759
***Kodak Digital Science DC-50 ..$628***
Sony DSC-F1 Digital Camera ....$690
Sony Mavica w/Zoom .....$689
Olympus D320L .....$899
Olympus D600L .....$1259
Apple QuickTake 200 .....$599

## Modems

USR Sportster 56k X2.....$144.95*
***GV Teleport 56k X2/FLEX ..$157.94***
Supra Express 56k .....$129
Supra Express 56k Voice .....$139
Sagem ISDN Geoport .....$389

**PCMCIA Modems**
Viking Netlink 56k .....$149
Viking Netlink 33.6 .....$109
PowerPort Platinum Pro 56k.....$359
GV PowerPort 56k Modem .....$259
* http://www.blol.com/rebate

## Radius

**DOS Cards**
Radius Reply PCI 5x86/133Mhz $659
Radius Reply PCI P133Mhz.....$999
Radius P166Mhz w/MMX.....$1079

**Displays/PCI Cards**
PercisionView 21" .26mm.....$1672
PressView 17SR 17" .....$1599
PressView 21SR 21" .....$3199

## PowerBook Extras

Podeum Strap-To-Leg .....$49.95
PB 1400 10BT Ethernet .....$93.97
PB 1400 8-Bit Video Out .....$159.95
PB 1400 Battery .....$124
PB 3400 Battery .....$174
Kensington Saddlebag .....$69.99

## Aceleration!

**200Mhz/604e Processor Card XLR8** $248

Processor Upgrade card fits into 75/76/85/9500s

TechWorks Power3D .....$222
XLR8 MACh Speed 200Mhz.....$309
XLR8 MACh Speed 225Mhz.....$374
XLR8 MACh Speed 233Mhz.....$428
PowerForce G3 250/250/1mb $1949
PowerForce G3 275/275/1mb..$2549
MaxPowr 225Mhz 604e .....$779
MaxPowr Pro + w/512K Cache$1289
PowerLogic Upgrades .....Call

## Iomega

**Iomega Zip $143.99**

Zip Drive Internal (Tan Color)..$149
Zip/Jaz Internal Kits .....$23
***Jaz Drive Internal (Tan Color)$199***
***Magic Jaz Drive External .....$349***
Jaz Drive 1GB Carts. Singles .....$87
Jaz Drive 1GB Carts. Qty 5 ....$79.99
Zip Drive 100MB Cart. 10-Pack$119

## Monitors

Viewsonic 17GA .....$609
Viewsonic OptiQuest Q71 17"..$488
Viewsonic 17EA-2 w/Speakers ..$539
Samsung SuyncMaster 6NE 17"$599
Sony 200sf 17" Monitor .....$719
Sony 200sx 17" Monitor .....$631
Magnavox CM5600 21".....$1059
Mitsubishi MC7515 19" .....$1125
Mitsubishi Pro 91TXM 21" ....$1499
Iiyama Visionmaster Pro 21....$1459
Iiyama Visionmaster 500 21" $1559

## PowerBooks/RAM

1400cs 133Mhz 16/1.3/CD....$1999
*1400 RAM Modules*

| Newer Tech | | Viking | |
|---|---|---|---|
| 12MB | $97 | 16MB | $139 |
| 16MB | $137 | 24MB | $189 |
| 24MB | $209 | 32MB | $229 |

3400c/180 16/1.3/CD .....$3059
3400c/200 16/2/CD ..... .....$3399

| *3400 RAM* | | *5300 RAM* | |
|---|---|---|---|
| 32MB | $179 | 16MB | $99 |
| 64MB | $399 | 32MB | $199 |
| 128MB | $749 | 48MB | $299 |

**PowerBook 1400c/166**

$2679

Make sure to ask about our low business and personal leases from $35/month

## Apple

**PowerMac 9600 604e/300Mhz** $3559

- *604e PowerPC 300Mhz!*
- *64MB RAM, 1MB Cache*
- *24x Speed CD-ROM*
- *4GB 5400RPM HD*
- *IMS 128 8MB VRAM*
- *Processor Upgradable*
- *1-Year Warranty*

**PowerMac 7300 604e/180Mhz** $1859

- *604e PowerPC 180Mhz!*
- *16MB RAM, 256K Cache*
- *12x Speed CD-ROM*
- *2GB 5400RPM HD*
- *2MB VRAM*
- *Processor Upgradable*
- *1-Year Warranty*

PowerMac 7300/200Mhz .....1959

**PowerMac 8600 604e/300Mhz** $2999

- *604e PowerPC 300Mhz!*
- *32MB RAM, 1MB Cache*
- *24x Speed CD-ROM*
- *4GB 5400RPM HD*
- *2MB VRAM*
- *Processor Upgradable*
- *1-Year Warranty*

**All New Apple Systems:**
6500/250 603e 32/4GB/24x ..$1999
6500/275 32/6GB/24x/Zip ....$2499
6500/275 48/6GB/24x/Zip ....$2799
6500/300 64/6GB/24x/Zip ....$2999
4400/200 16/1.2/8X .....$1299
8600/200 32/2GB 12x/Zip ....$2299
8600/250 32/4GB 24x/Zip ....$2539
9600/233 32/4GB 12x/4MB ..$2949
***9600/350 32/4GB/24x .....$5699***

## PCI/Nubus Cards

**ATI VR PCI** $259

Includes Director v4.0

ATTO Express PCI Ultra Wide..$299*
Jackhammer PCI Fast/Wide .....$379
Adaptec 2940UW Fast/Wide.....$295
***Targa 1000 PCI .....$1899***
Targa 2000 PCI .....$3299
LC/PDS 2MB VRAM 630/LCIII ..$239
MacPicasso 2MB VRAM NUBUS$289

## Favorite Software

***Quake For Mac *In Stock* ....$45.95***
Kai's PhotoSoap.....$43.79
Quark Xpress v3.32 .....$639
Adobe Photoshop v4.0 .....$469
Adobe Illustrator v7.0 .....$389
QuarkXPress v.4.0 .....$751
Freehand v7.0 Upgrade .....$147
MS Office v4.2.1.....$489
FileMaker Pro v4.0 .....$179
Speed Doubler 8 .....$53
Norton Utilities v3.5 .....$99

## Keyboards/Mice

***TurboMouse Mac/PC .....$89.95***
Mouse-In-A-Box .....$34.95
Extended Keyboard & Mouse $39.95
Apple Extended Keyboard II .....$149

## POWERtools New!

**X-Factor G3 750** $4899
starting at $3999 149 month

- *G3 Arthur Processor*
- *80MB RAM, 512k Cache*
- *24x Speed CD-ROM*
- *9.1GB 7200RPM AV HD*
- *4MB IX Micro, Kbd./Mse*
- *Processor Upgradable*
- *1-Year Warranty*

**PowerTools is now shipping the fastest MacOS system in the world!**
This system is packed with performance and extras! The G3 Series "Arthur" processors are 3x's faster than the standard 604e offerings from Apple and UMAX.

- 250/275 Mhz G3 750 Arthur Processor
- 512k/1024k BackSide Cache
- 6-PCI Slots, Ultra SCSI-3 Fast/Wide
- 10BT/AAUI Ethernet & MacOS 8

**The Fastest Mac By Far**

**UMAX SuperMac S900L 604e/250Mhz** $3339

- *604e PPC 250Mhz!*
- *32MB RAM, 512K Cache*
- *8x Speed CD-ROM*
- *2GB 7200 RPM HD*
- *IMS 128 8MB, Zip*
- *Processor Upgradable*
- *1-Year Warranty*

**We Offer The Complete Line:**
S900L/180 32/2GB/CD .....$2189
S900L/200 Dual Processor ....$3192
S900L/200 32/2.1GB/CD .....$2399
S900L/233 32/2GB/CD .....$2874
C500LT/240 24/2GB/CD .....$1379
C600L/200 16/2.1GB/CD .....$1269
C600L/240 24/2.1GB/CD .....$1469
***C600X/240 32/3GB/12xCD ..$1779***
***C600X/280 32/4GB/12xCD ..$2177***

## Printers

**Apple Stylewriter 6500** $489

Apple Stylewriter 4100.....$242
Apple Stylewriter 4500.....$343
***HP 5M 600x600 12ppm Laser $1599***
Epson Stylus Color 600 .....$295
Epson Stylus Color 800 .....$397
Epson Stylus Photo 6-Color.....$489
Epson Stylus 3000 11"x17" .....$1769

## Scanners

UMAX Astra 600s .....***$189***
UMAX Astra 1200s .....$447/$529
UMAX PowerLook II w/Pshp ..$1329
Epson Expression 636 Upgrade..$719
Microtek PageWiz Color .....$159
Microtek Scanmaker E3.....$194
Microtek Scanmaker III .....$1429
Nikon CoolScan II Slide Scnr ....$881
Visioneer Paperport Strobe .....$297

## Removable Media

SyQuest 44MB/88MB.....45/54
SyQuest 200MB/270MB.....59/79
***CD-R 74Min .....Call***
Optical Media 128MB/230MB ....Call
Jaz Media - (5 pack each) .....$79.99

## http://www.blol.com/macworld

Mac On! **1-800-990-5794**

Shipping: **$5, 5 lbs., 2 Days** Payment: No surcharge on credit cards. Corporate POs welcome. Tax: Texas residents add 8.25% sales tax. Prices: Items, prices and availability subject to change. Returns: Call for RMA number. Must be in original condition, opened software is non-refundable. Subject to a restocking fee. Original shipping is non-refundable. Apple brand products are not returnable for refund. Bottom Line Distribution cannot be responsible for errors in typography or photography. Customer Service:512-892-4090. International Sales: Bottom Line Distribution is committed to the needs of the international Macintosh user. We offer discounted rates with DHL. Delivery to most countries is 2 to 3 days. Dealer inquiries are welcome. Language interpreters available. Address: 4544 S. Lamar Blvd., #100, Austin, TX 78745

VISA BOTTOM LINE DISTRIBUTION

# CLUBMAC SHOCKS

## PRICES SLASHED ON Quantum & Seagate

### STRATUS 2.1GB
128K CACHE
5400 RPM
Internal
**$229**

### BARRACUDA 4XL 4.5GB
8.5MS Access
7200 RPM
Internal
**$599**

**Quantum VIKING** 4.5GB 7200 RPM Internal **$499**

**Quantum ATLAS II** 9.1GB 7200 RPM Internal **$879**

**Quantum STRATUS** 6.4GB 5400 RPM Internal **$449**

**Seagate CHEETAH** Fast & Wide 4.5GB 10000 RPM Internal **$699**

## HARD DRIVES

### Quantum

Quantum Stratus drives carry a 3 Year Warranty
Quantum Atlas & Viking drives carry a 5 Year Warranty

| Description | Model | Access | RPM | Internal | External |
|---|---|---|---|---|---|
| **Ultra SCSI-3** | | | | | |
| 2.1GB Stratus | QM32160STS | 10ms | 5400 | $229 | $279 |
| 3.2GB Stratus | QM33240STS | 10ms | 5400 | $299 | $349 |
| 4.3GB Stratus | QM34320STS | 10ms | 5400 | $339 | $389 |
| 4.5GB Viking | QM34550VKS | 8ms | 7200 | $499 | $549 |
| 4.5GB Atlas II | QM34550ALS | 8ms | 7200 | $579 | $629 |
| 6.4GB Stratus | QM36480STS | 10ms | 5400 | $449 | $499 |
| 9.1GB Atlas II | QM39100ALS | 8ms | 7200 | $879 | $929 |
| **UltraWide SCSI-3** | | | | | |
| 2.2GB Viking | QM32275VKSW | 8ms | 7200 | $419 | $499 |
| 4.5GB Viking | QM34550VKSW | 8ms | 7200 | $539 | $619 |
| 4.5GB Atlas II | QM34550ALW | 8ms | 7200 | $619 | $699 |
| 9.1GB Atlas II | QM39100ALW | 8ms | 7200 | $919 | $999 |
| **IDE Drives** | | | | | |
| 1.6GB Stratus | QM31620STA | 10ms | 4500 | $155 | ---- |
| 2.1GB Stratus | QM32160STA | 10ms | 4500 | $189 | ---- |
| 3.2GB Stratus | QM33240STA | 10ms | 4500 | $215 | ---- |
| 4.3GB Stratus | QM34320STA | 10ms | 4500 | $265 | ---- |
| 6.4GB Stratus | QM36480STA | 10ms | 4500 | $349 | ---- |

### Seagate

Seagate drives carry a 5 Year Warranty

| | | | | | |
|---|---|---|---|---|---|
| **Ultra SCSI-3** | | | | | |
| 4.5GB Barracuda 4XL | ST34572N | 8.5ms | 7200 | $599 | $649 |
| 4.5GB Cheetah | ST34501N | 8ms | 10000 | $699 | $749 |
| 9.1GB Barracuda 9 | ST19171N | 8ms | 7200 | $1049 | $1099 |
| 9.1GB Cheetah | ST19101N | 8ms | 10000 | $1199 | $1249 |
| **UltraWide SCSI-3** | | | | | |
| 4.5GB Barracuda 4XL | ST24572W | 8.5ms | 7200 | $649 | $729 |
| 4.5GB Cheetah | ST34501W | 8ms | 10000 | $749 | $829 |
| 9.1GB Barracuda 9 | ST19171W | 8ms | 7200 | $1089 | $1169 |
| 9.1GB Cheetah | ST19101W | 8ms | 10000 | $1199 | $1279 |
| **Fast SCSI-2** | | | | | |
| 23GB Elite 23 | ST423451N | 8ms | 5400 | $1989 | $2089 |
| **Fast&Wide SCSI-2** | | | | | |
| 23GB Elite 23 | ST423451W | 8ms | 5400 | $2089 | $2189 |

### IBM — 2.5" IDE HARD DRIVES

| | | | | | |
|---|---|---|---|---|---|
| 1.6GB Travelstar | 73H7693 | 13ms | 4000 | $199 | ---- |
| 2.1GB Travelstar | 73H7673 | 13ms | 4000 | $259 | ---- |
| 3.0GB Travelstar | 46H6144 | 13ms | 4000 | $399 | ---- |

**THE CLUBMAC PACKAGE** ClubMac drives are preformatted and thoroughly tested. ClubMac drives include a 30-Day Money Back Guarantee, Charismac Anubis Formatting Utility software, user's guide, brackets (wide drives include internal ribbon cable), 25/50-pin SCSI cable and power cord for external drives (wide drives include 68/68 pin SCSI cable).

## TAPE BACK-UP

**CLUBMAC TAPE BACK-UP**

| | |
|---|---|
| 4-8GB DDS-2 Compression DAT Drive | $799 |
| 4-8GB DDS-2 Performance DAT Drive | $899 |
| 12-24GB DDS-3 Lightning DAT Drive | $1199 |
| 15-30GB DLT Drive w/ Retrospect | $2699 |
| 20-40GB DLT Drive w/ Retrospect | $3189 |

**CLUBMAC AIT DRIVE**

| | |
|---|---|
| 25-50GB 8mm AIT Drive | $3449 |

*All ClubMac Tape Back-up Products are bundled with Retrospect 4.0*

**RETROSPECT 4.0**

| | |
|---|---|
| Retrospect 4.0 Retail Single User | $149 |
| Retrospect 4.0 Remote 10 User License | $175 |
| Retrospect Network Kit 4.0 (w/10 User license) | $275 |

## REMOVABLE

**REMOVABLE DRIVES** *Mail in Offer. Good through 1/30/98.

| | |
|---|---|
| ClubMac SyQuest 200MB 5.25" | $349 |
| SyQuest EZ Flyer 230MB 3.5" | $149 |
| SyQuest SyJet 1.5GB 3.5" | $399 |
| Nomai 750MB 3.5" | $299 |

### SYQUEST MEDIA

| Media | Qty 1 | Qty 10 | Qty 20 |
|---|---|---|---|
| 44MB | $38ea | $37.50ea | $37ea |
| 88MB | $38ea | $37.50ea | $37ea |
| 200MB | $59ea | $58ea | $57ea |
| 270MB | $43ea | $42ea | $41ea |
| EZ230MB | $27ea | $26.50ea | $26ea |
| 1.5GB SyJet | $124.99ea | $99ea | $89ea |

## CD READERS & RECORDABLES

**CLUBMAC CD-ROM READERS**

| | |
|---|---|
| 12X 140ms 1800k/sec | $139 |
| 24X 90ms 3600k/sec | $189 |
| 16X 5 Disc CD Changer | $279 |

**CLUBMAC CD-RECORDERS**

| | |
|---|---|
| 4X/6X CD-R w/Toast Pro 3.5 | $5 |

**CLUBMAC CD-REWRITABLE**

| | |
|---|---|
| 2X/2X/6X CDRW w/Toast Pro 3.5 | $5 |

**THE CLUBMAC PACKAGE:** ClubMac CD-ROM & CD Recorders are thoroughly tested CD-ROM & CD Recorders include a 30-Day Money Back Guarantee, Charismac CD AutoCache utility software, user's guide, 25/50-pin SCSI cable, terminator, and power cord

**IOMEGA ZIP DRIVES**

| | |
|---|---|
| Zip Drive w/one cartridge | $139.95 |
| Zip Bundle - drive, 11 Disks, Case, 2 Caddy's | $279* |
| Zip Drive Internal - all PowerMacs | $159 |
| Zip Drive Internal - all PowerComp./Umax | $139 |

**IOMEGA JAZ DRIVES**

| | |
|---|---|
| Jaz 2GB Media | $19 |
| Jaz 2GB Drive Internal - all PowerMacs | $54 |
| Jaz Drive w/one cartridge | $39 |
| Jaz Drive Internal - all PowerComp./Umax | $27 |

*Call for Other Zip and Jaz Solutions and Accessories*

## IOMEGA JAZ AND ZIP MEDIA

**GET MORE STORAGE FOR YOUR STUFF!!!**

### ZIP MEDIA

| Format | Part# | Qty 1-2 | Qty 3-6 | Qty 7-9 | Qty 10+ |
|---|---|---|---|---|---|
| MAC | 1040 1006 | $19.95 | $16.95 | $14.95 | $12.95 |
| PC | 1040 1009 | $19.95 | $16.95 | $14.95 | $12.95 |

### 1GB JAZ MEDIA

| Format | Part# | Qty 1-2 | Qty 3-5 | Qty |
|---|---|---|---|---|
| MAC | 1040 1015 | $124.95 | $99.95 | $8 |
| PC | 1040 1037 | $124.95 | $99.95 | $8 |

**CALL 1-800-260-8549 FOR A FREE CATALOG**

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer warranty. MONEY BACK GUARANTEE: All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac exchanges all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. RETURNS: Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

# THE WORLD!

## PRICES SLASHED ON EVERY APPLE CPU

Authorized Catalog Reseller

## PowerMac 8600 / PowerMac 9600

**$2896*** 
- 300MHz 604e PowerPC™
- 24X CD ROM
- 1MB L2 Cache
- 32MB RAM
- 4GB HD
- Zip Drive

**$3597***
- 300MHz 604e PowerPC™
- 24X CD ROM
- 1MB L2 Cache
- 64MB RAM
- 4GB HD
- Zip

64MB RAM

†Mail-In Rebate through Apple. Ask your sales representative for details. *Monitor sold separately.

## PowerBook 3400

- 2.1" Active Matrix
- As fast as 240MHz 603e
- Up to 3GB Hard Drive
- 12X CD ROM

FREE 32MB RAM or QuickTake Camera with ANY 3400 purchase.†

Starting at $2997

**PowerBook 3400c 180MHz** 603e, RAM, 1.3GB HD, 12X CD, 12.1" Active Matrix, 33.6 Modem ..... $2997

**PowerBook 3400c 200MHz** 603e, RAM, 2GB HD, 12X CD, 12.1" Active Matrix, 33.6 Modem ..... $3593

**PowerBook 3400c 240MHz** 603e, RAM, 3GB HD, 12X CD, 12.1" Active Matrix, 33.6 Modem ..... $4263

## PowerBook 1400

- Up to 11.3" Active Matrix
- As fast as 166MHz 603e
- Up to 2GB Hard Drive
- 8X CD ROM

Starting at $1949

**PowerBook 1400CS 133MHz** 603e, 16MB RAM, 1.3GB HD, 8X CD, 11.3" Dual Scan ..... $1949

**PowerBook 1400C 133MHz** 603e, 16MB RAM, 1.3GB HD, 8X CD, 11.3" Active Matrix ..... $2568

**PowerBook 1400C 166MHz** 603e, 16MB RAM, 2GB HD, 8X CD, 11.3" Active Matrix ..... $2852

## PowerMac 6500

- Up to 300MHz 604e PowerPC™
- Up to 64MB RAM
- Up to 24X CD
- Up to 6GB HD

$200 Rebate† When purchased with ANY Apple Display.

Starting at $1492*

†Mail-In Rebate through Apple. Ask your sales representative for details. * Monitor sold separately.

**6500/225Mhz** 603e, 32MB, 3GB HD, 12X CD, 33.6 Modem ..... $1492*
**6500/250Mhz** 603e, 32MB, 4GB HD, 24X CD, 56K Modem ..... $1874*
**6500/275Mhz** 603e, 32MB, 6GB HD, 24X CD, 56K Modem, Zip ..... $2356*
**6500/275Mhz** 603e, 48MB, 6GB, 24X, 56K Zip, *Business Software* ..... $2635*
**6500/300Mhz** 603e, 64MB, 6GB HD, 24X CD, 56K Modem, Zip ..... $2796*

### POWERMAC 7300 SYSTEMS

**7300/180MHz** 604e,16MB RAM, 2GB HD, 12X CD ..... $1449*
**7300/200MHz** 604e, 32MB RAM, 2GB HD, 12X CD ..... $1749*

## MONITORS

- an 100SX 15", 1024x768 ..... $339
- an 100SF 15", 1024x768 ..... $389
- an 200SX 17", 1024x768 ..... $625
- in 200SF 17", 1152x870 on screen dis. $699
- an 20SF2 20", 1280x1024 ..... $999
- an 300SFT 20", 1280x1024 ..... $1479
- e Scan 15AV 15", 1024x768 ..... $399
- sion 750 17", 1280x1024 ..... $849
- sion 750AV 17", 1280x1024, speakers $949
- sion 850 20", 1600x1200 ..... $1849
- sion 850 AV 20", 1600x1200 ..... $1749
- ew 17SR 17", 1600x1200 ..... $1699
- ew 21SR 21", 1600x1200 ..... $3199
- nView 21", 1600x1200 ..... $1749

**CROPS**

- 5 19", 1600x1200 ..... $1099
- 5 17", 1280x1024 ..... $599
- can MC801HR 21", 1600x1280 ..... $1879
- 5", 1280x1024 .28 dot pitch ..... $329
- 5", 1024x768 .28 dot pitch ..... $369
- 17", 1280x1024 .25 dot pitch ..... $649
- 7", 1024x768 .28 dot pitch ..... $757
- 21", 1280x1024 .28 dot pitch ..... $1379
- 21", 1360x1024 .28 dot pitch ..... $1499

**SONIC**

- 152x870, 86Hz, .27 dot pitch, speakers $609
- 17" 1280x1024, 80Hz, .25 dot pitch $679
- 21" 1600x1200, 85Hz, .28 dot pitch ..$1479
- 21" 1800x1440, 76Hz, .25 dot pitch ..$1549

## GRAPHIC CARDS

**ATI**
- Nexus GA™ 8MB 2D & 3D Pro PCI ..... $529.00
- XClaim VR™ 4MB PCI graphics card ..... $244.25
- XClaim TV™ Tuner ..... $82.00

**IX MICRO**
- Twin Turbo 128M 2MB PCI ..... $239
- Twin Turbo 128M 4MB PCI ..... $329
- Twin Turbo 128M 8MB PCI ..... $529
- Turbo TV ..... $99.95

**RADIUS**
- ThunderPower 30/1600 (PCI) ..... $549
- ThunderPower 30/1920 (PCI) ..... $659
- Thunder 3D (PCI) ..... $1599
- VideoVision Studio 2.5.1 (NuBus) ..... $999
- VideoVision Studio 2.0 (PCI) ..... $2499

## PRINTERS

All EPSON Printers are in stock Now!

**EPSON**
- Epson Stylus Color 600 *1440 DPI* ..... $269
- Epson Stylus Color 800 *1440 DPI* ..... $399
- Epson Stylus Color Photo *6 COLOR* ..... $499
- Epson Stylus Color 3000 *17"x 22" 1440 DPI* $1999

**APPLE**
- Apple Color Stylewriter 4100 ..... $239
- Apple Color Stylewriter 4500 ..... $339
- Apple Color Stylewriter 6500 ..... $469

**HEWLETT PACKARD**
- HP LaserJet 6MP ..... $885
- HP DeskJet 870CXI ..... $389

## MODEMS

'After $20 mail-in rebate.

**GLOBAL VILLAGE**
- Teleport 56K Fax/modem ..... $149.99*
- Teleport 56K Fax/modem w/X2 technology ..... $149.99*
- 56K PCMCIA Combo Card ..... $359

**BEST DATA**
- 33.6FLXMAC Fax/Modem ..... $49.99*
- 56K MAC Fax/Modem ..... $129.99

*After $20 mail-in rebate.

**MEGAHERTZ**
- Cruise Card, 33.6 w/ X-Jack, Cellular Ready $226

**U.S. ROBOTICS**
- 56k Sportster FAX/Modem w/X2 ..... $168.99†

†After $50 mail-in rebate. Rebates ends 1/17/98

## SCANNERS

†Price after $50 mail-in rebate
Rebate valid 10/1/97-12/31/97

**Visioneer**
- PaperPort Vx w/FREE SCSI adapter ..... $99†
- PaperPort Strobe *COLOR!* ..... $279*

*Price after $20 rebate

**AGFA**
- Agfa SnapScan for MAC 600DPI 24-Bit ..... $299
- Agfa Arcus II Desktop Pro Scanner ..... $1599

**LinoColor**
- LinoColor Saphir Scanner 36 bit flatbed ..... $1599
- LinoColor Jade Scanner 33 bit flatbed ..... $499

**UMAX**
- UMAX Astra 600S ..... $169
- UMAX Powerlook II w/trans. adapter ..... $1357

**Microtek**
- Microtek Scanmaker III w/trans adapter ..... $1389
- Microtek Scanmaker E6 w/Photoshop ..... $529
- Microtek Scanmaker V300 ..... $149

**EPSON**
- Epson Perfection 600 ..... $299

## SOFTWARE

**APPLE**
- System 8.0 CD upgrade ..... $65.99
- System 8.0 CD w/AICK ..... $94.99
- Apple Remote Access MultiPort Server V 2.1 $699.00

**ADOBE**
- Illustrator 7.0 full version ..... $374.95
- Illustrator 7.0 CD upgrade ..... $114.95
- Photoshop 4.0 full version ..... $539.95
- Photoshop 4.0 upgrade ..... $154.95
- PageMaker 6.5 full version Mac/PMac ..... $539.95
- PageMaker 6.5 upgrade CD ..... $89.95

**CLARIS**
- FileMaker Pro 4.0 ..... $181.95
- FileMaker Pro 4.0 competitive upgrade ..... $89.95

**MACROMEDIA**
- FreeHand 7 upgrade ..... $138.00
- FreeHand 7 ..... $374.95
- Director 6 Multimedia Studio upgrade ..... $499.00
- Director 6 Multimedia Studio ..... $925.00

**MICROSOFT**
- Office Standard 4.2.1 CD or Disk ..... $449.95
- Office Standard 4.2.1 upgrade CD or Disk ..... $265.95

**SYMANTEC**
- Norton Utilities 3.5 Upgrade ..... $49.95
- SAM 4.5 ..... $63.95
- Suitcase 3.0 ..... $64.85

## ACCELERATORS

**NEWER TECHNOLOGY**
- MaxPowr 225MHz PPC upgrade ..... CALL
- MaxPowr PRO 250MHz PPC 750 upgrade ..... $1269
- MaxPowr PRO+ 266MHz PPC 750 upgrade ..... $2169
- NuPower 183 PPC for 1400 upgrade ..... $519

## UMAX SuperMac C500i

200MHz PowerPC

- 200MHz 603e
- 16MB RAM
- 8X CD ROM
- 1.2GB HD
- 1MB VRAM

ONLY $995

**C500i** 200Mhz 603e, 16MB, 2GB HD, 12X, 33.6, $1200 Software ..... $1095*
**C500e** 200Mhz 603e, 16MB, 2GB HD, 12X, Ethernet, $1200 Software ..... $1095*

**C600** 200MHz 603e, 16MB, 2.1GB HD, 8X CD, 33.6 ..... $1195*
**C600** 240MHz 603e, 24MB, 2.1GB HD, 8X CD, 33.6 ..... $1395*
**C600x** 240MHz 603e, 32MB, 3GB HD, 12X CD, 33.6, Ethernet ..... $1795*
**C600x** 280MHz 603e, 32MB, 4GB HD, 12X CD, 33.6, Ethernet ..... $2095*

‡ Mail in offer from UMAX. Ask sales representative for details. Expires 11/30/97.

Source Code 690198

# ClubMac®

ORDER TODAY! 24/7 HOURS A DAY DAYS A WEEK

**1-800-260-8549**

Order On-line @ http://www.club-mac.com


UPGRADE YOUR MEMORY TODAY! 64MB DIMM $339 memory as low as $24

72pin SIMMS
- 8MB ..... $24
- 32MB ..... $69
- 64MB ..... $139

68pin DIMMS
- 16MB ..... $24
- 64MB ..... $84
- 128MB ..... $165
- 256MB ..... $339

POWERBOOK MEMORY
3400 SERIES
- 16MB ..... $129
- 32MB ..... $195
- 64MB ..... $519
- 128MB ..... $1049

1400 SERIES
- 16MB ..... $135
- 32MB ..... $199

30pin SIMMS
- 4MB 4 x 8 SIMMS ..... $32

Video RAM
- 2MB VRAM ATI XClaim GA ..... $85
- 4MBSGRAM 4400/Starmax ..... $89
- 1MB VRAM 7200 - 8500 ..... $33

ORY PRICES FLUCTUATE, PLEASE CALL FOR LATEST PRICES.



& Customer Service
urs a Day, 7 Days a Week ..... (800) 260-8549
ries & International Sales
8am - 9pm PST ..... (714) 768-8130
our Fax ..... (714) 768-9354

Corporate/Educational Sales
M - F 5am - 5pm PST ..... (800) 258-2621
Technical Support
M - F 5am - 9pm PST ..... (800) 854-6227

E-Mail: ClubMac Sales ..... cmsales@club-mac.com
Customer Service ..... custsvc@club-mac.com
Technical Support ..... techsup@club-mac.com
Mail: ClubMac ..... 7 Hammond, Irvine, CA 92618

WE WILL TRY TO MATCH OR BEAT ANY ADVERTISED PRICE. CALL FOR LATEST PRICING!!

WE ACCEPT PO'S FROM QUALIFIED FIRMS

# M E M O R Y

SECURITY WILL CALL WINDOW NOW OPEN! NO SURCHARGE FOR MC, VISA AE & DISCOVER

*L.A. Trade has served the PC market for 10 years...*

## MACINTOSH MEMORY UPGRADES

*Now we bring our expertise to the Apple Macintosh user.*

| YOUR MACHINE | STANDARD | MAX | VIDEO UPGRADE | VIDEO COST | 256K/ 512K/1MG CACHE | 2MB | 4MB | 6MB | 8MB | 10MB | 12MB | 16MB | 20MB | 24MB | 32MB | 48MB | 64MB | 128MB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apple PowerBook 190, 190CS | 4/8 | 36/40 | | | | | 42 | | 64 | | | 109 | | | 199 | | | |
| Apple PowerBook 520, 520c, 540, 540c Notebook | 4 | 36 | | | | | 49 | | 39 | | 89 | 99 | | 149 | 169 | | | |
| Apple PowerBook DUO 210, 230, 250 Notebook | 4 | 24 | | | | | 49 | 65 | 39 | 79 | 89 | 109 | 129 | 28=159 | | | | |
| Apple PowerBook DUO 270c Notebook | 4 | 32 | | | | | 49 | 65 | 39 | 79 | 89 | 109 | 129 | 28=159 | | | | |
| Apple PowerBook DUO 280, 280c Notebook | 4 | 40 | | | | | 49 | 65 | 39 | 79 | 89 | 109 | 129 | 28=199 | 36=229 | | | |
| Apple PowerBook DUO 2300c/100 Notebook | 8/20 | 56 | | | | | | | 39 | 79 | 89 | 109 | 129 | 199 | 199 | 299 | | |
| Apple PowerBook 1400 | 12/16 | 60/64 | | | | | | | 74 | | | 119 | | 179 | 199 | 299 | | |
| Apple PowerBook 2400 | | | | | | | | | 49 | | | 99 | | | 179 | | 419 | |
| Apple PowerBook 3400C EDO | | | | | | | | | 79 | | | 109 | | 189 | 199 | 299 | 392 | 738 |
| Apple PowerBook 5300 Series | 8/16/32 | 56/64 | | | | | 49 | | 79 | | 119 | 109 | | 149 | 189 | 289 | | |
| Apple Macintosh TV | 5 | 8 | | | | | 20 | | | | | | | | | | | |
| Apple Macintosh IIfx (64 pin) | 4 | 128 | | | | | 119 | | | | | 179 | | | | | 469 | |
| Apple Macintosh IIsi | 2/3/5 | 17 | | | | | 40 | | 60 | | | 104 | | | | | | |
| Apple Macintosh IIvx & IIvi | 4 | 68 | 512k | 59 | | | 40 | | 60 | | | 104 | | | | | 469 | |
| Apple Macintosh Classic II, LC, LCII | 2/4 | 10 | 512k | 59 | | 20 | 30 | | 56 | | | | | | | | | |
| Apple Macintosh LCIII, LC475, LC550, LC575, LC580 | 4 | 36 | 256k | 34 | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh LC520 | 5 | 36 | | | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh LC580 | 4 | 48 | | | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh LC499 | 4 | 36 | | | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh LC5200 | 8 | 64 | | | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh LC630 | 5 | 36 | | | | | 20 | | 44 | | | 64 | | | 169 | | | |
| Apple Macintosh IIci | 1/5 | 128 | | | | | 40 | | | | | 119 | | | 208 | | 469 | |
| Apple Macintosh II, IIx, IIcx (w/Pal) | 1 | 32 | | | | | 48 | | 124 | | | 149 | | | 298 | | | |
| Apple Macintosh SE30 | 1/2 | 32 | | | | | 40 | | 96 | | | 119 | | | 238 | | | |
| Apple Performa 400 | 4 | 10 | 512k | 68 | | 22 | 30 | | 56 | | | | | | | | | |
| Apple Performa 405, 410, 430 | 4 | 10 | 512k | 68 | | 22 | 30 | | 56 | | | | | | | | | |
| Apple Performa 450, 460, 466, 467, 475, 476 | 4 | 36 | 256k/512k | 34/68 | | | 20 | | 44 | | | 99 | | | 129 | | | |
| Apple Performa 550, 560, 575, 577, 578, 580 | 5 | 36 | 256k | 34 | | | 20 | | 44 | | | 99 | | | 129 | | | |
| Apple Performa 600, 600CD | 5 | 68 | 512k | 59 | | | 40 | | | | | 119 | | | | | 469 | |
| Apple Performa 6110CD, 6112CD, 6115CD (pairs) | 8/16 | 72 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6117CD, 6118CD (pairs) | 8/16 | 72 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 630, 630CD, 636 | 4 | 36 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 631CD, 636CD, 640CD | 8 | 52 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 635CD | 5 | 36 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 637CD, 638CD | 8 | 36 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 5200 Series 5200CD, 5215CD, 5300 | 8/16 | 64 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6100 Series 6116CD (pairs) | 8/16 | 72 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6200 Series 6200CD, 6216CD, 6218CD | 8 | 64 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6200 Series 6220CD, 6230CD, 6290 | 8 | 64 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6205CD, 6214CD | 8 | 64 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6300CD, 6320 | 16 | 64 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Performa 6400CD, 6360 (2K Refresh) | 16 | 136 | | | 94 | | | | | | | | | | | | 259 | |
| Apple Centris 610, 650, 660 AV | 4 | 132 | 512k | 59 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 605 | 4 | 36 | 512k | 59 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 610 | 4 | 68 | 256k | 34 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 630 | 4 | 36 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 650 | 4/8 | 132/136 | 256k | 34 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 660AV | 4 | 68 | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 700 | 4 | 68 | 256k | 34 | | | 48 | | | | | 104 | | | | | 469 | |
| Apple Quadra 800 (pairs) | 8 | 136 | 512k | 59 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 840AV | 8 | 128 | 512k | 59 | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Apple Quadra 900 | 4 | 256 | 512k | 59 | | | 48 | | | | | 104 | | | | | 469 | |
| Apple Quadra 950 | 8 | 256 | 512k | 59 | | | 48 | | | | | 104 | | | | | 469 | |
| Apple Workgroup Servers | 8 | 136 | 256k | 34 | | | Call | | Call | | | Call | | | Call | | | |
| Power Macintosh 4400/160 | 8 | 72 | 2M/4M | 59/79 | 89/119 | | | | | | | 84 | | | | | 259 | |
| Power Macintosh 5200, 5260, 5300 | 16 | 136 | | | 89/119 | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 5400 | 8 | 136 | | | 89/119 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 6100/60, 6100/66, 6100/66AV (pairs) | 8/16 | 72 | | | 29/– | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 6200/75 | 8/16 | 72 | | | 29/– | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 6400/200 | 8/16 | 72 | | | 89/119 | | 20 | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 6500/225, /250, /275, /300 (Edo) | 8/16 | 72 | | | 29/– | | 20 | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 7100/66, 7100/80, 7100/66AV (pairs) | 8/16 | 136 | 512k | 59 | 29/– | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 7200/75, /90, /120, /120PC | 8/16 | 256 | 1mg | 49 | 59/89/209 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 7300/166, /180, /200, 7500/100 | 8/16 | 256/1gig | 1mg | 49 | 59/89/209 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 7600/100, /120, /132, /200 | 8/16 | 1gig/512 | 1mg | 49 | 59/89/209 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 8100/80, /100, /110 | 8/16 | 264 | 512k | 59 | 29/109 | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 8100/80AV, /100AV, /110AV (pairs) | 8/16 | 264 | 512k | 59 | 29/109 | | 20 | | 44 | | | 64 | | | 129 | | | |
| Power Macintosh 8500/120, /132, /150, /180 | 8/16 | 1gig/512 | 1mg | 29 | 59/89/209 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 8600/200, /233 | 8/16 | 1gig/512 | 1mg | 49 | 59/89/209 | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 9500/120, /132, /150, /180MP, 200 | 16/32 | 768/1.5 gig | 2mg | 62 | | | | | | | | 84 | | | 139 | | 259 | |
| Power Macintosh 9600/200, /233, /200MP | 8/16 | 768 | 2mg | 87 | | | | | | | | 84 | | | 139 | | 259 | |
| Color Laserwriter 12/600 PS | | | | | | | 20 | | | | | 89 | | | | | | |
| Color Laserwriter 12/640 PS | | | | | | | 20 | | 44 | | | 64 | | | 129 | | | |
| Color Laserwriter 16/600 PS | | | | | | | 20 | | 44 | | | 89 | | | | | | |
| Motorola Starmax 3000 EDO/160, 200; 4000/160, 200 | 16/32 | | | | | | | | | | | 91 | | | 149 | | | |

NEW 168 Pin EDO 3.3V Dimms Call!

**UMAX MEMORY**

| | |
|---|---|
| C500/140, 160, 180 | 8/16/32/64 meg ..... 49/89/139/279 |
| C600/180, 200, 240 | 8/16/32/64 meg ..... 49/89/139/279 |
| J700/150, 180 | 8/16/32/64 ..... 49/89/139/279 |
| S900/150, 180, 200, 225 (pairs) | 8/16/32/64/128 meg .... 49/89/139/279/879 |
| S900 dp/180, 200 (pairs) | 8/16/32/64/128 meg .... 49/89/139/279/879 |

**ATA Flash for Digital Cameras**

| | |
|---|---|
| 4 Meg | 99 |
| 8 Meg | 129 |
| 16 Meg | 239 |
| 20 Meg | 276 |
| 32 Meg | 379 |
| 48 Meg | 649 |
| 64 Meg | 829 |

**Flash Memory for Apple Newton**

| | |
|---|---|
| 4 Meg | 109 |
| 8 Meg | 189 |
| 16 Meg | 359 |
| 20 Meg | 389 |
| 24 Meg | 499 |

*CHECK OUT OUR WEBSITE FOR APPLE BATTERIES!!!*

**CALL FOR NEW MODELS NOT LISTED**

All products brand new & guaranteed • We buy excess inventory

*Trademarks are registered with their respective companies.*

22825 Lockness Avenue • Torrance, CA 90501

CUSTOMER SERVICE & TECHNICAL: OPEN M–F, 9–4 PST

**POWER COMPUTING**

| | 8MEG | 16 MEG | 32MEG | 64MEG |
|---|---|---|---|---|
| POWER 80, 100, 110, 120 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER CENTER 120, 132, 150, 166, 180 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER CURVE 601/120 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER TOWER 166/180 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER TOWER PRO 180, 200, 225 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER WAVE 604/120 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER WAVE 604/132, 150 | 49.00 | 91.00 | 149.00 | 289.00 |
| POWER COMPUTING POWER BASE (EDO) | CALL | CALL | CALL | CALL |

NO SURCHARGE FOR MASTERCARD, AMEX, VISA OR DISCOVER. PURCHASE ORDERS ACCEPTED FROM FORTUNE 2000, GOVERNMENT & INSTITUTIONS. California orders add 8.25%sales tax. Returned orders or ordered wrong parts are subject to a 20% restocking fee. We accept International orders shipped via UPS Air, APO, FPO orders welcome. Customers are expected to pay customs and "other" charges if shipped Int'l. All credit card charges verified for fraudulent use. SORRY, NO REFUNDS AFTER 30 DAYS – EXCHANGES ONLY. If you receive defective merchandise we exchange only—no refunds. We accept MC, VISA, Discover, AE, prepaid orders, purchase orders, wire transfer, COD (cashiers check) orders, cash & cashiers checks. Orders shipped by UPS, FEDX must be signed for. • ALL MANUFACTURER PART #'S ARE FOR REF ONLY • MINIMUM ORDER $40.00 • NO REFUNDS ON SHIPPING.

**310-539-0019**
**FAX: 310-539-5844**

SECURITY WILL CALL WINDOW NOW OPEN

CALL TOLL FREE **1-800-433-3726** (US and Canada)

ESTAB. 1985

Prices & Availability Subject to Change Without Notice

Mon-Fri, 8:00 a.m. to 5:00 p.m. PST
Sat. 10:00 a.m. to 12:00 noon

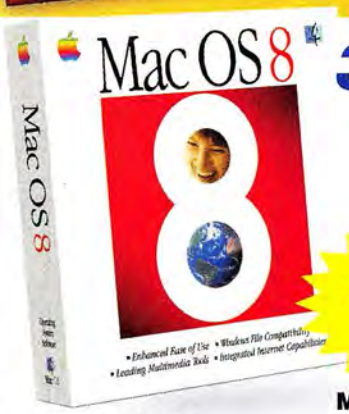
**www.4LATrade.com** **e-mail: sales@latrade.win.net**

# The Mac Zone®

# Your Macintosh® Catalog SuperStore™

**PROUDLY SERVING MAC USERS SINCE 1986**

## 3 GREAT MAC OS 8 BUNDLES!




### Mac OS 8

- Multitasking Finder saves you valuable time
- Live scrolling for greater page file control
- "Connect To" shortcut to visit Web sites or launch browser

#75302 Mac OS 8 (Full Version). . . . **$98.98**

ONLY $99.98* #50804

### Mac OS 8 and Quicken Deluxe 98

*Your Mac does more with OS 8 and your money goes further!*

*After $30 Claris mail-in rebate (Mac OS 8 Upgrade for owners of Mac OS 7.6 ONLY) and $20 Intuit mail-in rebate (Quicken Deluxe 98). Low Zone Bundle price $149.98.

ONLY $179.98* #75359

### Mac OS 8 and Iomega Zip Disk 10-Pack plus FREE Zip Disk with preloaded software

*After $20 Iomega mail-in rebate. Low Zone price $199.98.

***HURRY WHILE SUPPLIES LAST!***

ONLY $179.98 #73511 & #73512

### Mac OS 8 and Global Village TelePort 56K* Modem†

#73511 TelePort 56K* K56Flex Faxmodem with Mac OS 8 . . . . . **$179.98**

#73512 TelePort 56K* X2 Faxmodem with Mac OS 8 . . . . . **$179.98**

*Capable of downloading at 56 Kbps; however, current FCC regulations limit transmission to 53 Kbps.
†Product shipped in promotional packing. Retail box not included

***The most affordable and portable storage solution***

Incredible LOW PRICE! ONLY $134.95 #91825

### Iomega Zip® Drive

- Unlimited storage on inexpensive 100MB disks
- Easy plug-and-go setup to SCSI connector
- Totally compatible with Mac OS and DOS/Windows

***Powerful Web authoring for Mac users – no HTML required!***

$40 REBATE!

| | |
|---|---|
| Low Zone Price | $135.00 |
| Mfr. Mail-in Rebate | – $40.00 |
| Your Price After Rebate | $95.98 |

Offer Expires 6/1/98 #83320

### Microsoft FrontPage98 for the Macintosh

- The Web made easy with database access and ActiveX support
- Complete tools, featuring Internet Explorer 3.0 and HTML editing

ONLY $159.98 #72135

### Performantz 8X CD-ROM Drive AND Riven: The Sequel to Myst

- 1200K/second data transfer rate; 1368.8K/sec. in mode 2
- Super-fast 145ms average access time
- 256K data buffer for smooth performance
- Multisession Photo CD and MPC 2 compliant
- Includes CD-ROM acceleration software
- A whole NEW world beyond Myst®
- Over 60 hours of gameplay on 5 CDs
- 4,000 breathtakingly realistic images
- Astonishing live-action and animation sequences
- Two hours of haunting ambient music by creator Rand Miller

#74166 Riven: The Sequel to Myst . . . . . **$49.98**

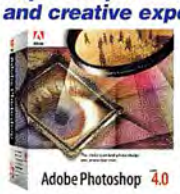
***A revolutionary breakthrough in Photo Quality inkjet printing!***

NEW LOW PRICE! ONLY $269.98 #80667

### EPSON Stylus Color 600

- Brilliant Photo Quality 1440 dpi output – perfect for today's home or office!
- Up to 6 ppm black, 4 ppm Photo Quality color
- QuickDry fast-drying inks
- 100-sheet paper capacity, up to legal size

***Improved productivity and creative experimentation!***




ONLY $164.98 #76736

### Adobe Photoshop 4.0.1 Upgrade

- Batch-process files with a single click
- Experiment more easily with color correction and effects
- Navigate large images dramatically faster
- A wealth of new creative effects, including 48 new filters

**FREE!** ***Vertigo's Dizzy Included***

**A $90 Value! While supplies last!**

*Plus $2.95 for shipping and handling.

***Breakthrough pricing on 30-bit scanning!***

NEW!

ONLY $159.98 #53948

### UMAX Astra 600S SCSI-2 Color Scanner

| | |
|---|---|
| **Optical Resolution:** | **300x600 dpi** |
| **Max. Resolution:** | **4800x4800 dpi** |
| **Max. Scan Size:** | **8.5x14"** |
| **Color Bit Depth:** | **30-bit** |
| **Scan Method:** | **Single-pass, color CCD** |

**NEW!** ***Video out and removable media***

### Olympus D-220L Digital Camera

ONLY $499.98 #50571

- Direct connection to TV/VCR for family viewing
- Both optical and electronic viewfinders
- Bright 2" actual image color LCD
- Includes Adobe PhotoDeluxe and InMedia Slides & Sound

***Ordering from The Mac Zone is Easy!***

**Shop online at www.maczone.com**

SOURCE CODE MW801

# 1·800·436·0606

Circle 71 on your reader service card

# The Mac Zone®

# Your Macintosh® Catalog SuperStore™

**PROUDLY SERVING MAC USERS SINCE 1986**

## BLOWOUT SPECIAL!

Nokia 447W
17" Multimedia Monitor
(15.9" viewable)

ONLY $449.98
with any CPU purchase!*

- 0.26 dot pitch
- Maximum resolution 1280x1024 at 79Hz
- Integrated 2-watt speakers and microphone
- On-screen menu

#47499 Nokia 447W 17" Monitor . . . $499.98

* Must be on same invoice.

NEW!

***Run Windows applications and games on your Power Mac!***

RealPC
ONLY $69.98

- MS DOS 6.22 pre-installed and ready to run
- Full Sound Blaster Pro and Sound Blaster 16 compatibility
- Full support for Video 7 SVGA, VEGA and DirectX graphics

100% Mac/PC Compatibility

16MB SIMMS $59.98
***WHILE SUPPLIES LAST!***

## UMAX® *Power and expandability for your small office!*

*The Magic of Color™*

ONLY $1195
#81532

Monitor sold separately.

### SuperMac C600/200 Computer

- Upgradable PowerPC™ 603e running at 200MHz
- 16MB RAM, expandable to 144MB
- Spacious 2.1GB lightning-fast IDE hard drive
- 8X CD-ROM drive
- 256K Level 2 cache
- 1MB VRAM
- 3 PCI expansion slots
- External and internal Fast SCSI connector
- Two high-speed serial ports

## Shop The Mac Zone ONLINE!

## www.maczone.com

- All the latest products for your Mac – over 12,000 to choose from anytime!
- Weekly specials and blowout savings!
- Our special section for Mac Advocacy – industry news, hot tips and tons more!
- Our Vendor Spotlights area showcases hot new technology from top developers!
- Special promotions and product offers exclusively for our online customers!
- Enter to win Cool Prizes at *Riddle du Jour!*
- All this and more in a user-friendly, 100% secure shopping environment!

**Corporate Sales** 1-800-258-0882
**Government Sales** 1-800-372-9663
**Education Sales** 1-800-381-0882
**International Sales** 1-206-430-3750

A NASDAQ® COMPANY Ticker Symbol: MZON

Copyright © 1997 • The Mac Zone ® is a registered trademark of Multiple Zones International, Inc. All rights reserved.

**THE MAC ZONE • TRUSTED INTERNATIONALLY**

Australia • Austria • Belgium • Brazil • Central America • Chile • Colombia • Denmark • France • Germany • Holland • Hong Kong • Indonesia • India • Israel • Italy • Japan • Kenya • Mexico • New Zealand • Poland • Portugal • Singapore/Malaysia • Spain • Sweden • Switzerland • UAE/Middle East • United Kingdom • Venezuela

# We Carry the Full Line of Apple® Macintosh® Computers

- Over 6000 Products to Choose From!
- Cool Bundles and Hot Specials!
- Low Prices Everyday!
- Overnight Delivery only $3 (up to 2 lbs)

we're open 24 hours a day 7 days a week

***The latest from Apple!***

## Apple® Power Macintosh® 7700 Series

- NEW! 233/266 PowerPC G3 processor
- 32MB RAM, supports up to 192MB
- 4GB hard drive
- 24X CD-ROM drive
- 66MHz system bus speed
- 117/133 backside bus speed
- 2MB video SG RAM
- IDE hard disk drive

AS LOW AS $1999 #77039

Monitor sold separately.

#77040 Power Macintosh 7700/266 ..... $2499.00

***The performance and expandability for creative professionals!***

## Apple® Power Macintosh® 9600/300

- Super-fast 300MHz PowerPC™ 604e processor
- 1MB inline cache
- 64MB RAM, expandable to 768MB
- 4GB Fast SCSI hard drive
- Built-in 100MB Iomega Zip drive
- 24X CD-ROM drive
- 16-bit stereo audio input and output
- 8MB IXMICRO Twin Turbo graphics accelerator
- LocalTalk®/10Base-T and AAUI-15 networking
- 6 PCI expansion slots and 7 drive bays

WAS ~~$4599~~ NOW ONLY $3799 #74726

$800 PRICE DROP!

Monitor sold separately.

***Superior Performance Plus MS Office!***

Incredible LOW PRICE! While Supplies Last

## Apple® Small Business Power Macintosh® 4400/200

- 200MHz PowerPC™ 603e processor
- 32MB RAM, expandable to 160MB
- 2.0GB hard drive
- Built-in 12X CD-ROM drive
- 33.6/14.4 Kbps data/fax modem
- Two PCI slots
- High-quality 16-bit stereo sound

ONLY $1599 #78171

Monitor sold separately.

***The ideal big screen view for business users***

## Apple® Multiple Scan 1705 Display

(17" – 15.8" viewable)

- 0.28mm dot pitch
- Maximum resolution of 1024x768 at 75Hz

BLOWOUT PRICE! While Supplies Last ONLY $549.88 #87875

# WIN A LIMITED EDITION 20TH ANNIVERSARY MACINTOSH!

Official Sweepstakes Rules:

1. **No purchase necessary.** To enter the contest, please complete the entry form on this page (Mac Zone catalog back page or Macworld ad), or on our Web site at www.maczone.com, or hand-print your name, company name, and address (including zip code) and mail in an envelope to: Mac Zone Holiday Sweepstakes, 707 S. Grady Way, Renton, WA 98055-3233. Sweepstakes entries will be void if incomplete, illegible or erroneous.
2. **Participation.** Sweepstakes contest begins on October 15, 1997, and is open only to U.S. residents who are 18 years or older. Employees of Multiple Zones International, Inc. and its affiliates or subsidiaries, and their immediate family members and/or those living in the same household are not eligible to participate. Sweepstakes limited to one entry per street or e-mail address. Mailed entries must be postmarked by January 31, 1998; electronic entries must be received by 5:00 p.m. PST, January 31, 1998.
3. **Validation.** The winner will be selected at random on February 28, 1998, and results will be announced on our Web site (www.maczone.com) on March 1, 1998. The winner will also be notified by mail. You may also get this information by sending a separate, stamped, self-addressed #10 envelope after March 1, 1998, to: Multiple Zones 20th Anniversary Macintosh Sweepstakes Winner, 707 S. Grady Way, Renton, WA 98055-3233. The judges' decision will be final.
4. **Prizes and Odds.** One (1) Grand Prize of a 20th Anniversary Macintosh Computer. Odds of winning will depend on number of eligible entries received. No prize substitution or transfers will be permitted.
5. **Other Rules.** All submissions become property of Multiple Zones International. Sweepstakes valid only in the U.S., and subject to all applicable laws. Void where prohibited by law. All sweepstakes entrants, by participating in the contest, agree to be bound to these Official Sweepstakes Rules.
6. **Disclaimers.** Multiple Zones International, Inc. hereby disclaims any responsibility for lost, late, stolen, interrupted, misdirected or unreceived mail or electronic transmissions; technical, hardware, software, telephone, Web site or Internet problems or failures of any kind; computer viruses or bugs; or any injury or damage to any computer resulting from participation in sweepstakes or downloading of materials.

CLIP HERE AND MAIL YOUR ENTRY TODAY!

# ENTER TO WIN!

## 20th Anniversary Macintosh

*250 MHz /32MB RAM/2GB Hard Drive /12.1" Flat Panel Display/Bose Sound*

## *Holiday Sweepstakes*

Name _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

e-mail _____

**Is this location:**
☐ Home ☐ Business ☐ Both

**If Business:**
Nature of business: _____
Education institution? Y ___ N ___
Number of employees at site: _____
Total number of employees: _____

**What platform do you currently use?**
☐ PC ☐ Mac ☐ Both

**Which of the following products do you plan to purchase in the next 6 months?**
☐ CPU
If yes, ☐ PC ☐ Mac ☐ Undecided
☐ Monitor ☐ Printer
☐ Scanner ☐ Networking products
☐ Software

SOURCE CODE MW801

***Ordering from The Mac Zone is Easy!***

***CALL US TOLL-FREE!***

**or *FAX* your order to 425.430.3500**

# 1·800·436·0606

Circle 71 on your reader service card

# UP TO A $250 INSTANT REBATE
## We Will Beat Any Computer Price!!!

## New Lower Prices!!!

up to 166MHz

### Apple® Macintosh® PowerBook® 1400cs

133MHz PowerPC™ 603e/16MB RAM
1.3GB Hard Drive/8X CD-ROM
11.3" Dual Scan Display
Was $2,499 Now
**$1,999!**
Order #22910

**Also available at MacMall**

| | | |
|---|---|---|
| #22911 | PowerBook 1400c/133MHz 603e/16MB RAM/1.3GB Hard Drive 8X CD-ROM/11.3" Active Matrix Display Was $2,999 Now | $2,699 |
| #22912 | PowerBook 1400c/166MHz 603e/16MB RAM/2GB Hard Drive 8X CD ROM/11.3" Active Matrix Display Was $3,499 Now | $2,999 |

**Get 32MB RAM FREE or QuickTake Camera** w/ any PowerBook 3400 purchase. Call your Sales Representative for details.

## NEW Power Macintosh® G3 Series

up to 266MHz

- 233MHz PowerPC™ G3
- 32MB RAM
- 4GB Hard Drive
- 24X CD-ROM

**$1,999!** #24058
(Desktop Model)
**Also Available at MacMall**

| | | |
|---|---|---|
| #24059 | Power Macintosh G3/266MHz G3 32MB RAM/4GB Hard Drive/24X CD Zip Drive/Desktop Model | $2,399 |
| #24060 | Power Macintosh G3/266MHz G3 32MB RAM/6GB Hard Drive/24X CD Zip Drive/Mini-Tower (shown) | $2,999 |

## Special Offers on Power Mac's!

### Power Macintosh 4400

200MHz PowerPC™ 603e/16MB/2GB HD/8X CD//2MB VRAM
Was ~~$1,499~~ **$1,299!** #22887

up to 300MHz

**Also Available at MacMall**

| | | |
|---|---|---|
| #22888 | Power Macintosh 4400/200MHz 603e/32MB RAM 2GB Hard Drive/12X CD 33.6 modem/MS Office | $1,599 |
| #22899 | Power Macintosh 7300/180MHz 604e 16MB RAM/2GB Hard Drive/12X CD | $1,999 |
| #22900 | Power Macintosh 7300/200MHz 604e/32MB RAM/2GB Hard Drive/12X CD | $2,199 |

**Save up to $300** on a PowerMac 8600 and any Apple Display Purchase. Call your Sales Representative for details.

| | | |
|---|---|---|
| #22903 | Power Macintosh 8600/250MHz 604e/32MB RAM/4GB Hard Drive/24X CD Zip Drive(model shown above) | $2,599 |
| #22904 | Power Macintosh 8600/300MHz/604e/32MB RAM/4GB HD/24X CD-ROM/Zip Drive | $3,099 |

Monitor sold separately on all models

**Save up to $200** on a PowerMac 6500 and any Apple Display Purchase. Call your Sales Representative for details.

up to 300MHz

### Power Macintosh 6500

| | | |
|---|---|---|
| #22895 | Power Macintosh 6500/250MHz/603e 32MB RAM/4GB HD/24X CD-ROM/56K modem | $1,999 |
| #22896 | Power Macintosh 6500/275MHz/603e 32MB/6GB HD/24X CD/56K modem/Zip Drive | $2,499 |
| #22897 | Power Macintosh 6500/275MHz/603e/48MB RAM 6GB HD/24X CD/56K modem/MSOffice/Zip Drive | $2,799 |
| #22894 | Power Macintosh 6500/300MHz 603e/64MB RAM 4GB HD/12X CD/33.6 Modem/Zip Drive | $2,499 |

Monitor sold separately on all models.

## Memory

Starting as low as $3.12 MB

#65416 Prices subject to change. Please call for most current pricing.

### Macintosh PowerBook 3400c

180MHz PowerPC™ /16MB RAM/1.3GB Hard Drive
12X CD-ROM/33.6 Modem
12.1" Active Matrix Display
Was $3,999 Now
**$3,199!**
Order #22914

up to 240MHz

Authorized Catalog Reseller

### Macintosh PowerBook 3400 Series

| | | |
|---|---|---|
| #22915 | PowerBook 3400c/200MHz/16MB/2GB HD 12X CD/33.6 Modem/12.1" Active Matrix Display Was $4,499 Now | $3,799 |
| #22916 | PowerBook 3400c/240MHz/16MB/3GB HD 12X CD/33.6 Modem/12.1" Active Matrix Display Was $5,499 Now | $4,499 |

## SOFTWARE EXCLUSIVE!

**Only at MacMall... Mac OS 8 Upgrade & Speed Doubler 8 Plus—FREE RAM Doubler 2!**
Only **$99.99**
#11291
Price reflects $30 mail-in upgrade rebate for users of Mac OS 7.6. Price before rebate is $129

**Open 24 Hours**

### NEW Iomega® ZipPlus™ Drive!

- 100MB SCSI/Parallel
- 28 X faster than a floppy drive
- 5 CD titles included

**$199.99** #14647

### Iomega® 1GB Jaz® Drive External SCSI

- FREE 1GB Cartridge w/ Jaz Tools included
- Up to 12ms access time

While Supplies Last!

**$289.99** #15813
(Factory refurbished. Limit 5 per customer.)

### DJ700 17" Color Display

- 16.1" viewable; JAG control
- 1280 x 1024 max. resolution @ 65Hz
- 26mm flat-square CRT

Special! MacMall Price

**$499.99** #89714

### Fuji Zip Disks 100MB Mac 10pk

**$9.99** per disk
after $20 mail-in rebate for 10-pk. 10 pack price before rebate is $119
Ask for #88261

### D-220L Digital Zoom Camera

- 640 X 480 pixel resolution, 2MB

New!

**$499.99** #14494
OLYMPUS

### PaperPort® VX

visioneer

- Scans paper in seconds
- Direct links to popular applications

FREE! SCSI Adapter

**$99.99*** #14609
*After $50 mail-in rebate. Rebate expires 12/31/97.

$1.8 Billion Inventory Available! Over 45,000 Products! Custom Configuration! Fastest Overnight Delivery!

FedEx Federal Express

# with any CPU purchase!

We'll beat any price from any authorized catalog reseller on any CPU we offer. Call us before you order from anyone else. We want your business!

**MacMall Exclusive Instant Rebates!**

**Save up to an additional $250** on Mac OS Systems and Powerbooks!
No Mail-in Hassles!
No Quantity Limits!
Certain restrictions apply. Call for details.

## MOTOROLA
Authorized Computer Reseller

### Motorola StarMax 3000MT

200MHz PowerPC™ 603e/32MB RAM
2.5GB Hard Drive
8X CD-ROM
Mini-tower (shown at left)

**$849!** #24009
While supplies last.

| | | |
|---|---|---|
| #24012 | StarMax 3000MT/200MHz/603e/32MB RAM 4.3GB HD/8X CD/28.8 Modem/Mini-tower | $949 |

### New Low Prices! Motorola StarMax 5000MT

275MHz PowerPC™ 603e/32MB RAM/4.3GB Hard Drive
16X CD-ROM/Zip Drive/Mini Tower model (shown above)

**$2,195!** #22965

| | | |
|---|---|---|
| #24013 | StarMax 5500MT/200MHz/604e/64MB RAM 2.5GB HD/16X CD/Mini-tower | $1599 |
| #22966 | StarMax 5000MT/300MHz/603e/32MB RAM 4.3GB HD/16X CD/Zip Drive/Mini-tower | $2449 |
| #22967 | StarMax 5000MT/300MHz/603e/32MB RAM 4.3GB HD/16X CD/Zip Drive/Mini-tower | $2849 |

All monitors on Motorola systems are sold separately

## UMAX
Computer Corporation

### UMAX C500/200LT

200MHz PowerPC™ 603e
16MB RAM/2GB HD/8X CD

**$995!** #22926
(shown at right)

**Also Available UMAX C600 and S900**

| | | |
|---|---|---|
| #22931 | UMAX SuperMac C600/240MHZ 603e/24MB RAM 2.1GB Hard Drive/12X CD ROM<br>*Includes FREE Astra 600s Scanner! Hurry Offer ends 11/30/97* | $1,395 |
| #22917 | UMAX SuperMac S900/200MHz 604e/32MB RAM 2.1GB Hard Drive/8X CD ROM/4MB VRAM (shown at left) | $2,495 |

All monitors on UMAX systems are sold separately

**SuperMac C500**
Up to 200MHz! for under $1000!

## PowerComputing

### Power Computing PowerBase 240MT

240MHz PowerPC™ 603e/ 16MB RAM
2GB HD/16X CD ROM/2MB VRAM

**$1,999!**

#22941 mini-tower (shown at left)

**While Supplies Last!**
*Call your Sales Representative for details.*

Monitor sold separately.

**FREE!**
Marathon II Durandal
w/any Software purchase from MacMall
Ask for #92532.
2 shipping and handling fee.

### Best Data 33.6K Data/Fax Modem

- 33.6K Data/ 14.4K Fax
- Create a customized voicemail system
- Free Data/Fax software

**$48.99*** #84415
*After $20 mail-in rebate.

### Stylus Color Pro Printer

EPSON Exclusive

- 720dpi print quality
- Optional PostScript & Network interface

**$179.99** #96717 (factory refurbished)
#77043 Postscript Option for Stylus Pro $69.99

### 56K Data/Fax Modem

- PnP installation
- Caller ID
- FREE Data/Fax software

NEW Low Price!

**$99.99** #95195

### UMAX Astra 1200S Color Scanner

- 30-bit, single pass
- 600 x 1200dpi resolution
- Single-pass color CCD

was $379. Now Only
**$299.99** #94333
Includes Adobe PhotoDeluxe®, Presto! PageManager & Internet Software!

### Adobe Illustrator® 7.0 Upgrade

- New interface
- RGB color support
- Handles large images

**$124.99** #94828

### Norton Utilities 3.5 CD

SYMANTEC.

- OS 8 compatible
- Disaster recovery
- Ideal for large files and external drives

**$59.99** Upgrade #15159

### Director 6 Upgrade CD

macromedia

- 120 sprite channels
- Streaming Shockwave for Web multimedia
- Browser scripting
- Zooming & multiple views

**$389.99** #91226

**Order And** Register to **Win a NEW Mercedes SLK!** No purchase necessary.

Order Any Time! Open 24 Hours. Use Source Code #ZMWD811

**1-800-217-9492**

Order Today by 11 pm EST—Get It Tomorrow by 10:30 am www.macmall.com

MacMall The Mall With It All...For Less!

MacMall is not responsible for typographical errors or errors in content. Prices subject to change. Please call for most current pricing.

Circle 131 on reader service card

# NEW PowerPC Blowouts

## Apple PowerBooks AS LOW AS $2699!*

PowerBook 1400c/133MHz • CPU 0743
While supplies last

12X CD-ROM DRIVE!

PowerBook3400c/180MHz/ 16MB RAM/1.3GB Hard Drive/ 12x CD-ROM shown.

### PowerBook 3400:

- 180, 200 or 240MHz PowerPC 603e processor
- 16MB of RAM (expandable to 144MB)
- Internal 1.3, 2, or 3GB hard disk drive
- Internal 12X CD-ROM
- 256K Level-2 cache

**PowerBook 3400c/180MHz**
16MB RAM/1.3 GB Hard Drive/33.6 modem/10Base-T Ethernet/12XCD — Save $800
CPU 0671 Was ~~$3999~~ ..... Now $3199

**PowerBook 3400c/200MHz**
16MB RAM/2.0 GB Hard Drive/33.6 modem/10Base-T Ethernet/12XCD — Save $700
CPU 0670 Was ~~$4499~~ ..... Now $3799

**PowerBook 3400c/240MHz**
16MB RAM/3.0 GB Hard Drive/33.6 modem/10Base-T Ethernet/12XCD — Save $1000
CPU 0610 Was ~~$5499~~ ..... Now $4499

**PowerBook 3400 Memory Upgrades**
16MB CHP 0437 ..... $249
32MB CHP 0439 ..... $399.95

**THE SMALLEST, LIGHTEST, POWERBOOK EVER!**
PowerBook 2400c/180MHz/16MB/ 1.3GB HDD/ 10.4" Active Matrix display
CPU 0713 ..... $3499
PowerBook 2400 Memory Upgrades
16MB CHP 0474 ..... $249.95
32MB CHP 0475 ..... $399.95

PowerBook 1400c/133MHz/16MB RAM/1.3GB HD/8X CD/L2/11.3" Active Matrix Display
CPU 0743 Was ~~$3099~~ — Save $500 ...Now $2699

PowerBook 1400c/166MHz/16MB RAM/2.0GB HD/8X CD/L2/11.3" Active Matrix Display
CPU 0745 Was ~~$3499~~ — Save $300 ...Now $2999

**PowerBook 1400 Memory Upgrades** — Save $500
16MB CHP 0410 ..... $229.95
24MB CHP 0411 ..... $329.95
32MB CHP 0498 ..... $359.95

*While supplies last.

## 11.3" Active Matrix Color SVGA Display

8X CD-ROM DRIVE!

PowerBook 1400c/133 16MB RAM with 8X CD-ROM drive shown.

GET UP TO A $300 REBATE! WITH PURCHASE OF APPLE MONITOR†

## Huge Savings on Apple Power Macs

**Prices slashed up to $800!**

- 250-300MHz PowerPC 604e processor
- 32MB-64MB RAM, expandable up to 768MB
- 4.0GB hard drive
- Iomega 100MB Zip drive
- 24X CD-ROM drive
- 2MB-8MB VRAM
- 1MB Level-2 Cache
- Built-in 10Base-T and AAUI ethernet connections

Up to 300MHz

24X CD-ROM DRIVE!

Monitor sold separately.

**Power Macintosh 8600/250MHz**
32MB/4GB/24XCD/Iomega Zip Drive
CPU 0850 was ~~$3199~~ ..... $2599 — $234 after $250 reb

**Power Macintosh 8600/300MHz**
32MB/4GB/24XCD/Iomega Zip Drive
CPU 0784 was ~~$3699~~ ..... $3099 — $279 after $300 reb

**Power Macintosh 9600/300MHz**
64MB/4GB/24XCD/Iomega Zip Drive
CPU 0785 was ~~$4599~~ ..... $3799

† Price for Power Mac 8600 when purchased with any Apple monitor (exclu refurbished Apple monitors). Price reflects Apple mail-in rebate. See indivi items for rebate amounts. Allow 6-8 weeks for delivery. Good for purchas between 10/31/97 and 1/16/98. Power Mac 8600 and Apple monitor mus appear on same invoice. Ask for coupon #AAA0596.

## Power Mac 7300

- PowerPC 604e processor
- 16 or 32MB of RAM, expandable to 512MB
- 2GB fast SCSI Internal HD
- Internal 12X CD-ROM
- Built-in 10 Base-T and AAUI Ethernet connections
- 2MB VRAM

12X CD-ROM DRIVE!

Monitor sold separately.

**Power Macintosh 7300/180MHz**
16MB/2GB/12XCD CPU 0571 Was ~~$2299~~ ..... $1999

**Power Macintosh 7300/200MHz**
32MB/2GB/12XCD CPU 0572 Was ~~$2699~~ ..... $2199

**Power Macintosh 7300/180MHz PC Compatible**
180MHz Power PC 604e processor w/32MB RAM and 166MHz Pentium Processor with 32MB RAM/2GB HD/12XCD
CPU 0676 ..... $2999

**Memory Upgrades for Power MAC 7300/8600/9600**
16MB CHP 0383 ..... $179.95
32MB CHP 0382 ..... $249.95
64MB CHP 0392 ..... $599

## ORDER ONLINE! and Get FREE Software!*

www.warehouse.com

Choose one of these software packages when you place an online order with MacWAREHOUSE!
*Limit one per customer
$2.95 shipping & handling.
Shipped in promotional packaging.
While supplies last.

### 3 Ways to Order:

30 DAY Money Back GUARANTEE

1. Phone: 1-800-434-3036
2. FAX: 1-732-942-2502
3. Online: www.warehouse.com

1. Our sales staff is ready to take your order 24 hours a day, 7 days a week.
2. We accept the following major credit cards: Visa, MasterCard, Discover Card/NOVUS, AmEx. Your credit card will not be charged until each item is shipped (no surcharge).
3. CT, IL, NJ, and OH residents add applicable sales tax.
4. Overnight delivery just $3.95 per order up to 3 pounds. For all orders over 3 pounds, shipping is $1.25 per pound or fraction thereof. (Example: for a 4 pound order is $5.00). Please add an additional handling charge of $3.00 for all orders under $50.00.
5. Place your order for "in-stock" items up to 12:00 midnight(E) (weekdays), and we will ship same day for overnight delivery (barring system failure, etc.).
6. Many of our products come with a 30-DayMoney Back Guarantee. All items we sell come with the MacWAREHOUSE 30-Day Guarantee Against Defects.

30-DAY Guarantee Against Defects

© Copyright 1997 Micro Warehouse, Inc. MacWAREHOUSE® is a division of Micro Warehouse, Inc. MacWAREHOUSE® and MicroWAREHOUSE® are registered trademarks and Data Comm WAREHOUSE and MacSystems WAREHOUSE are trademarks of Micro Warehouse, Inc. Apple, the Apple logo, Mac and Macintosh are registered trademarks of Apple Computer, Inc. Item availability and price subject to change without notice. We regret that we cannot be responsible for typographical errors. All prices shown in U.S. dollars.

## LOWEST MEMORY PRICES EVER!

as low as $19.95!

1MB SIMMS
Item # CHP 0022

WHILE SUPPLIES LAST

## SUPER FAST CD-ROM DRIVES

Plus, get F/A 18 Hornet 3.0 FREE! when you buy an 8X or 24X CD-ROM Drive!
For FREE F/A 18 Hornet. Ask for item #AAA 0520

as low as $149.95!

24X CD-ROM Drive- Item # DRI 2302 $199.95
12X CD-ROM Drive- Item # BND 2345 $149.95

INCLUDES YOUR FIRST DISK!††

## ZIP DRIVES

only $139.95!†

Item # DRI 1050

| 100MB Zip Disks | 1-9 | 10-19 | 20+ |
|---|---|---|---|
| Ask for MED 0165 | $19.95ea | $16.95ea | $12.99ea |

†Refurbished by the manufacturer to meet original factory specifications

## HP LASERJET 4000N

New!

only $1499.95!

Item # PR12975

- 17ppm engine and 100MHz RISC processor
- HP FastRes 1200 and HP ProRes 1200
- Genuine Adobe PostScript Level 2 Software
- 8MB memory expandable

# from MacWAREHOUSE!

## UMAX C500LT/200

- 200MHz PowerPC 603e Processor
- 16MB RAM
- 2.0GB Internal Hard Drive
- 8X CD-ROM Drive
- 1MB VRAM
- Two PCI Expansion Slots
- Extended Keyboard & Mouse

**$999!**

Monitor sold separately.

Ask for Item # CPU 0836

**MacWAREHOUSE EXCLUSIVE!**

## PowerBase Low Profile 240MHz

- 240MHz PowerPC™ 603e processor!
- 16MB RAM (expandable to 160MB)!
- 2.0GB hard drive!
- 16X CD-ROM drive!
- 2MB VRAM graphics on board!
- ADB keyboard and mouse!
- Three fast PCI expansion slots!

**PowerBase Low Profile 240MHz**
256K cache/16X CD-ROM
Item # CPU0882. . . . . $999*

**Power Computing 15" Multi Media Display Monitor**
BND 2337 . . . . . $349.95

as low as **$999!*** CPU0882

While Supplies Last!

While supplies last.
Monitor sold separately.

## PERFORMA 6400/200 VIDEO EDITING EDITION

- 200MHzPowerPC603eProcessor
- 32MB RAM
- 2.4GB hard drive
- 8X CD-ROM
- 28.8Kbps fax modem
- 1MB VRAM
- Two fast PCI expansion slots
- Avid Cinema Card! Create professional-looking movies right from your Mac!

Monitor sold separately.

Item # CPU 0552 . . . . . $1599

**Comes loaded** with home, education, and home-business programs... PLUS a full collection of multimedia CDs!

*Price for PowerBase 240 Low Profile when purchased with a Power Computing 15" monitor. Price reflects $100 MacWAREHOUSE mail-in rebate. Price for PowerBase 240 before rebate is $1099. Price for Power Computing 15" Multi Media Display monitor is $349.95. PowerBase 240 Low Profile and Power Computing 15" Multi Media Display monitor must appear on same invoice. Offer expires 11/30/97 or while supplies last.

## NEW VERSION! NETSCAPE COMMUNICATOR 4.0 INTERNET ACCESS EDITION

Everything you need to communicate on the Internet!

Upgrade for only **$29.95!*** After $30 mail-in Rebate

30 Days FREE Internet Access and Details Inside Box†

Ask for item # COM 0837 (CD-ROM)

Includes Netscape Navigator 4.0!

*Price reflects publishers $30 mail-in upgrade rebate for previous owners. Price before rebate is $59.95. See coupon inside packaging for details.
†See details inside box for selected Internet service providers.

## UPGRADE TO MAC™ OS 8.0

Only **$69.95!*** Ask for item # UPG 0687 (CD-ROM)

Mac OS 8.0 requires 68040 or PowerPC based machine.

Get 5 CDs FREE!

when you buy Mac OS 8.0 now! Ask for AAA0546. 5 FREE CDs include Etherlink Internet Access, Marathon, 3000 Mega ClipArt Pack & more...
*2.95 shipping & handling applies. Shipped in promotional packaging.
†Qualifying products Mac OS 7.6 purchased or acquired through CPU purchase.

HURRY, WHILE SUPPLIES LAST!

## NEW VERSION! UPGRADE TO FILEMAKER PRO 4.0

Create your own Relational Databases!

Only **$99.95!*** Ask for item # UPG 0722

*Packaging may vary. Proof of ownership required

# MacWAREHOUSE®

To order, call toll-free 24 hours a day, 7 days a week **1-800-434-3036**

**Your #1 Source for Apple Products!**

FREE CATALOG SUBSCRIPTION! Check the appropriate box(es) to receive your FREE 1-year catalog subscription(s) and mail this coupon to: 1720 Oak Street, P.O. Box 3013, Lakewood, NJ 08701

Name

Address E-Mail

City State Zip

(Expect to receive your first issue(s) within 4-6 weeks.)

❑ *Yes, send me my FREE Power User's Tool Kit. Enclosed is my check for $2.95 to cover shipping & handling.*

❑ MacWAREHOUSE ❑ MicroWAREHOUSE ❑ DataComm WAREHOUSE ❑ MicroSystems WAREHOUSE

*For your FREE Canadian Catalog, call toll-free 1-800-603-5139!*

Circle 150 on reader service card

# MEGAHAUS OUR DRIVE PRICES CAN'T BE BEAT!

## • UNBEATABLE DEALS •

**IOMEGA JAZ DRIVE**
Full retail package in Iomega case.
1GB External w/1 disk [JAZX] $374
1GB Media any qty [JAZC1GIGMAC] $82
2GB External w/1 disk [JAZ2X] $639
2GB Media any qty [JAZC2GIGMAC] $148

**SYQUEST SYJET DRIVE**
Drive in our case. Ask about mail-in offer.
External w/1 disk [SYJET1.5MEX] $345
Media any qty [SJ1.5C] $84

**PCI WIDE CONTROLLERS**
Adaptec Single [A2940MUW] $269
Dual Channel [A3940MUW] $529

**4.6GB OPTICAL DRIVE**
Ext w/1 disk [SSS4.6MAC] $1199

**CDR74 BLANK MEDIA**
5 PACK [CDR74-5] $17
20 PACK [CDR74-20] $47
50 PACK [CDR74-50] $99
100 PACK [CDR74-100] $179
Add 90¢ per disk for printable media.
We will not be undersold on CD Recordable or CD ReWritable media!

**QUANTUM IDE DRIVES**
3.2GB [FB33240A] $200
4.3GB [FB34320A] $249
6.4GB [FB36480A] $327

**HITACHI 2.5" IDE DRIVES**
2.1GB [DK225A21] $240
3.2GB [DK226A32] $390
4.0GB [DK227A41] $call

Hot Swappable drive kits. Available alone or added to an external unit.

**We custom configure to your needs:**
**RAID**
**A/V**
**Call us**

Super cooling drive fan. $30 Alone or added to an external hard drive.

## • SCSI HARD DRIVES •

### MICROPOLIS
**We will beat any advertised Micropolis price!•**

| | | | | | | Int | Ext |
|---|---|---|---|---|---|---|---|
| 4300MB | 10ms | 5400rpm | 512K | MC4743 | 5yr | **$325** | **$375** |
| 4550MB | 7.9ms | 7200rpm | 512K | MC4345 | 5yr | $490 | $550 |
| 9091MB | 8.5ms | 7200rpm | 512K | MC3391 | 5yr | **$850** | **$910** |
| ULTRA SCSI A/V - Drives fine tuned for audio and video applications. 2MB Buffer! | | | | | | | |
| 4550MB | 7.9ms | 7200rpm | 2MB | MC4345AV | 5yr | $550 | $610 |
| 9091MB | 8.5ms | 7200rpm | 2MB | MC3391AV | 5yr | $890 | $950 |
| ULTRA WIDE SCSI | | | | | | | |
| 4300MB | 10ms | 5400rpm | 512K | MC4743W | 5yr | **$330** | **$410** |
| 4550MB | 7.9ms | 7200rpm | 512K | MC4345W | 5yr | $510 | $590 |
| 9091MB | 8.5ms | 7200rpm | 512K | MC3391W | 5yr | $870 | $950 |
| ULTRA WIDE SCSI A/V - Drives fine tuned for audio and video applications. 2MB Buffer! | | | | | | | |
| 4550MB | 7.9ms | 7200rpm | 2MB | MC4345WAV | 5yr | $570 | $650 |
| 9091MB | 8.5ms | 7200rpm | 2MB | MC3391WAV | 5yr | $920 | $990 |

### Seagate
**We will beat any advertised Seagate price!•**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2150MB | 11ms | 5400rpm | 128K | ST52160N | 3yr | $225 | $275 |
| 2160MB | 8ms | 7200rpm | 1024K | ST32272N | 5yr | $345 | $395 |
| 4550MB | 9.1ms | 7200rpm | 512K | ST34555N | 3yr | $359 | $409 |
| 4550MB | 8ms | 7200rpm | 512K | ST34572N | 5yr | $525 | $575 |
| 4550MB | 7.5ms | 10,000rpm | 512K | ST34501N | 5yr | $609 | $659 |
| 9100MB | 8ms | 7200rpm | 512K | ST19171N | 5yr | $869 | $919 |
| 9100MB | 8ms | 10,000rpm | 512K | ST19101N | 5yr | $999 | $1049 |
| 23200MB | 13ms | 5400rpm | 512K | ST423451N | 5yr | $1669 | $1769 |
| WIDE SCSI | | | | | | | |
| 2160MB | 8ms | 7200rpm | 512K | ST32272W | 5yr | $375 | $465 |
| 4550MB | 8ms | 7200rpm | 512K | ST34572W | 5yr | $549 | $639 |
| 4550MB | 7.5ms | 10,000rpm | 512K | ST34501W | 5yr | $635 | $725 |
| 9100MB | 8ms | 7200rpm | 1024K | ST19171W | 5yr | $889 | $979 |
| 9100MB | 8ms | 10,000rpm | 512K | ST19101W | 5yr | $1025 | $1115 |
| 23200MB | 13ms | 5400rpm | 512K | ST423451W | 5yr | $1689 | $1839 |

### Quantum
**We will beat any advertised Quantum price!•**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2151MB | 10ms | 5400rpm | 128K | FB32160S | 3yr | $225 | $275 |
| 2275MB | 8ms | 7200rpm | 512K | VK32275S | 5yr | $335 | $385 |
| 3228MB | 10ms | 5400rpm | 128K | FB33240S | 3yr | **$275** | **$325** |
| 4310MB | 10ms | 5400rpm | 128K | FB34320S | 3yr | $309 | $359 |
| 4550MB | 8ms | 7200rpm | 512K | VK34550S | 5yr | $465 | $515 |
| 4550MB | 8ms | 7200rpm | 512K | XP34550S | 5yr | $519 | $569 |
| 6448MB | 10ms | 5400rpm | 128K | FB36480S | 3yr | **$405** | **$455** |
| 9100MB | 8ms | 7200rpm | 512K | XP39100S | 5yr | $819 | $859 |
| ULTRA WIDE SCSI | | | | | | | |
| 2275MB | 8ms | 7200rpm | 512K | VK32275W | 5yr | $335 | $425 |
| 4550MB | 8ms | 7200rpm | 512K | VK34550W | 5yr | $465 | $555 |
| 4550MB | 8ms | 7200rpm | 512K | XP34550W | 5yr | $519 | $609 |
| 9100MB | 8ms | 7200rpm | 512K | XP39100W | 5yr | $819 | $909 |

### FUJITSU

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4400MB | 8ms | 7200rpm | 512K | M2954S | 5yr | $539 | $589 |
| 9100MB | 8ms | 7200rpm | 512K | M2949S | 5yr | $899 | $949 |
| WIDE SCSI | | | | | | | |
| 4400MB | 8ms | 7200rpm | 512K | M2954W | 5yr | $555 | $645 |
| 9100MB | 8ms | 7200rpm | 512K | M2949W | 5yr | $965 | $1055 |

We stock a complete line of IDE drives including Toshiba 2.5" IDE Hard Drives!

## • CD RECORDERS •

Smart STORAGE SOLUTIONS

**Smart Storage Solutions CDR Drives Include**
**5 FREE disks and Toll Free support!**
**Duo Master systems include 1 Free cartridge!**

### 2x6 CD Recorder

- 2x record, 6x playback
- High quality Sony mechanism.
- Caddy loading
- Includes 5 FREE blank CDs.
- Includes #1 rated Adaptec Toast software.

**Complete external only $375**
**Duo Master with Jaz or SyJet Drive $690** CD-R media only $2.25ea w/ drive!

### 4x6 CD Recorder

- 4x record, 6x playback
- High quality Yamaha mechanism.
- Choose tray or caddy loading
- Includes 5 FREE blank CDs.
- Includes #1 rated Adaptec Toast software.

**Complete external only $489**
**Duo Master with Jaz or SyJet Drive $805** CD-R media only $2.25ea w/ drive!

### 2x6 CD ReWritable

- 2x record, 6x playback
- High quality Ricoh mechanism.
- Writes to CD-R or CD-RW media.
- Loading: Tray 1MB, Caddy 2MB.
- Includes 5 FREE rewritable CDs.
- Includes #1 rated Adaptec Toast software.

**Complete 1MB external $549**
**Duo Master with Jaz or SyJet Drive $865**
**Complete 2MB external $579**
**Duo Master with Jaz or SyJet Drive $895**
CD-R media only $2.25ea w/ drive!
CD-RW media only $18.25ea w/ drive!

### 4x12 CD Recorder

- 4x record, 12x playback
- High quality Teac mechanism.
- Tray loading. 1MB buffer
- Includes 5 FREE blank CDs.
- Includes #1 rated Adaptec Toast software.

CD-R media only $2.25ea w/ drive!

**Complete external only $569**
**Duo Master with Jaz or SyJet Drive $885**

### Signature CD COLOR PRINTER
**Printable media only $2.95ea w/ printer!**

- Better than ink markers and paper stick on labels.
- Conveys a more professional image.
- Highly water resistant. Easy to apply.
- No more ruined or out of balance CD's.
- Compatible with MacOS, Windows 3.1, 95, and NT.

**$1069** [CDPRINTER]

## • CD ROM DRIVES •

| | | | | | External |
|---|---|---|---|---|---|
| NEC | 16X | 100ms | 256K | Tray | $169 [CDR1610XM] |
| Nakamichi | 16X | 130ms | 5 Disk Changer | | $289 [MJS16XM] |
| Plextor | 20X | 95ms | 512K | Tray | $275 [PX20TSM] |
| NEC | 24X | 85ms | 128K | Tray | $199 [CDR1810XM] |
| Pioneer | 24X | 90ms | 6 Disk Changer | | $439 [DRM6324XM] |
| Teac | 32X | 85ms | 128K | Tray | $199 [CD532SXM] |

## • SCSI TAPE BACKUP •

***These tape drives include backup software and 1 FREE TAPE!***

**EXABYTE**
7-14GB, 8mm, DAT, 60MB/min $729 [EXB8700LTXM]
7-14GB, 8mm, DAT, 120MB/min $1549 [ELIANTXM]

**SONY**
4-8GB, 4mm, DDS-2 DAT, 44MB/min $759 [SDT5000XM]
4-8GB Pro, 4mm, DDS-2 DAT,90MB/min $829 [SDT7000XM]
12-24GB, 4mm, DDS-3 DAT,144MB/min $1109 [SDT9000XM]
32-64GB, 4mm, DDS-2 DAT, 8 tape loader. 90MB/min $1949 [TSL7000XM]

**We sell all brands of - hard drives, tape drives, optical drives, CD duplicators, CD recorders, CD mastering software, CD towers, CD ROM, RAID adapters and software, controllers, enclosures, mounting brackets, PCMCIA adapters and drives, laptop hard drives, & much more. See our web site or call with your requirements.**

Since 1987 The Drive Authority

MEGAHAUS

DISCOVER MasterCard VISA

**1-800-786-1184**

Sales lines open: M-F 8-8 Sat 9-3 CST

2201 Pine Drive, Dickinson, Texas 77539
(281)534-3919 FAX (281)534-6580
http://www.megahaus.com

*Price beating policy is for this magazine issue only, and internal drives only. Competitor must have drive in stock, and must be a new drive with full warranty. Price beating policy is limited to 1 drive per customer. Prices & specifications subject to change without notice. Shipping charges are nonrefundable. Returns must be in new condition and in original packaging. Defaced items may not be returnable. No refunds on software or special orders (items not listed as such.) All refunds subject to 15% restocking fee. All trademarks are registered trademarks of their respective companies. Personal checks held for clearance. We reserve the right to refuse any sale for any reason. Bundle price good only if sold at ad price. ©1997 MegaHaus Inc.

Jan 98 MacWorld



Circle 135 on reader service card

# LEASE FROM Digital Graphix

## $0 Down 100% Business Financing
## NO Payments for 90days!

$200 MODEM FREE!

New Business? Yes
Need Money? Yes
Call? Digital GraphiX

AT&T Capital Corporation

Digital GraphiX NOW LEASING

### 9600/350 DTP Hi-EndSolution

9600/350 starting at $4799!

- PowerPC 9600/350 w/ 24xCD
- 320MB RAM, 4GB HD, 1MB Cache
- Internal Zip, Apple keyboard
- Viewsonic 21" P810 monitor
- IMS 8MB PCI video card
- Microtek ScanMaker III/Trans/Photoshop
- GCC 808 800dpi 11x17 Printer & Enet
- SyJet 1.3GB Drive with 1 cartridge
- Wacom 12x12 Graphics Tablet
- Sony SDT-5000 DAT Tape Backup

ZERO DOWN! $359 PER MONTH
$12 A DAY!!
FREE!

### Go Custom / 7300/200 Value DTP Station

7300/200 starting at $1499!

- PowerPC 7300/200 w/ 12xCD
- 96MB RAM, 2GB HD
- Apple keyboard
- IOMega Zip 100 w/ 1 cart
- Viewsonic 17EA AV monitor
- Scanmaker V300 color scanner
- 4MB Video RAM
- Apple LaserWriter 4/600, 600 dpi printer w/ 2 AppleTalk connectors
- Wacom 6x8 Artz Graphics Tablet

ZERO DOWN! $109 PER MONTH
$4 A DAY!!
FREE!

### 8600/300 MidRange DTP Station

8600/300 starting at $2399!

- PowerPC 8600/300 w/ 24xCD
- 160MB RAM, 4GB HD, 1MB Cache
- Apple keyboard
- Int IOMega Zip 100 w/ 1 cart
- Viewsonic 17EA AV monitor
- Scanmaker v300 color scanner
- ATI 4MB PCI video card
- GCC608 11x17, 600 dpi printer w/ Ethernet connectors
- Wacom 12x12 Graphics Tablet

ZERO DOWN! $199 PER MONTH
$6 A DAY!!
FREE!

### 9600/300 Real Time Video Capture System

9600/300 starting at $2799!

60 Frames/Sec

- PowerPC 9600/300Mhz w/ 24xCD
- 448MB RAM, 4GB HD
- 1MB Cache
- Extended keyboard
- Internal Zip 100 w/ 1 cart
- Sony 20" Trinitron monitor
- IMS 8MB PCI video card
- TrueVision Targa Pro 1000
- Internal 18GB F/W Disk Array with Adaptec SCSI Controller/Remis SW
- Yamaha 4x/6x CDR/10 carts/Toast SW

ZERO DOWN! $329 PER MONTH
$10 A DAY!!
FREE!

### 8600/250 3-D Video/Audio Workstation

$100,000 Lease Credit

8600/250 starting at $2079!

LOW Prices

- PowerPC 8600/300 w/ 24xCD
- 416MB RAM, 4GB HD, 1MB Cache
- Extended keyboard, Int. Zip Drive
- Radius 801HR 1600x1200 Monitor
- Radius Thunder 3-D PCI Video
- ScanMaker V300 color scanner
- Strata Studio Pro V2.0 3D Software
- GCC608 11x17, 600 dpi printer w/ Ethernet connectors

ZERO DOWN! $279 PER MONTH
$9 A DAY!!
FREE!

### Lease System Specials

| System Description | Price | Lease | |
|---|---|---|---|
| Apple PowerBook 1400CS 133/16MB/1.3GB/8xCD | $1499 | $53.65 | |
| Apple PowerBook 1400C 133/16MB/1.3GB/6xCD | $1999 | $70.59 | |
| Apple PowerBook 3400C 200/16MB/2GB/12xCD | $2699 | $96.02 | |
| **Apple PowerMac 6500 250/48MB/4GB/12xCD/Zip/Mod** | **$1439** | **$50.82** | SALE |
| Apple PowerMac 6500 300/64MB/4GB/12xCD/Zip | $1759 | $61.98 | |
| Apple PowerMac 7300 180/32MB/2GB/12xCD | $1439 | $50.82 | |
| Apple PowerMac 7300 200/32MB/2GB/12xCD | $1499 | $53.65 | |
| Apple PowerMac 8600 200/32MB/2GB/12xCD/Zip | $1899 | $67.77 | |
| Apple PowerMac 8600 250/32MB/4GB/24xCD/Zip | $2079 | $73.42 | |
| Apple PowerMac 8600 300/32MB/4GB/24xCD/Zip | $2399 | $84.04 | |
| **Apple PowerMac 9600 200/32MB/2GB/12xCD/IMS 4MB** | **$2199** | **$76.25** | SALE |
| Apple PowerMac 9600 300/64MB/4GB/24xCD/Zip/IMS 8MB | $2799 | $98.85 | |
| SuperMac S900L 250/32MB/4GB/16xCD/IMS 8MB/Zip | $2079 | $73.42 | |
| PowerTower Pro 250/128MB/$GB/16xCD/IMS 8MB | $1759 | $61.98 | |

*Hurry Sale Only a Few Left at these Prices!!*

### Memory

64 MB Only $219
256K Cache Only $29

| Size | DIMMS | SIMMS | |
|---|---|---|---|
| 4MB | N/A | $19 | |
| 8MB | $34 | $29 | |
| 16MB | $59 | $57 | |
| 32MB | $109 | $109 | |
| **64MB** | **$219** | **NA** | SALE |
| 128MB | $679 | NA | |

*Lifetime Warranty*

### SyQuest & ZIP Drives

Includes 25'50 cable, active terminator, FWB Hard Disk ToolKit

| | | |
|---|---|---|
| **ZIP 100 External** | **$129** | SALE |
| SyJet 1.5GB External | $299 | |
| SyQuest 200MB External | $379 | |

### Removable Cartridges

| | | |
|---|---|---|
| **JAZ 1GB** | **$79** | SALE |
| Zip 100MB | $12 | |
| Syjet 1.5 | $82 | |
| 200MB | $55 | |
| 88MB | $35 | |
| 44MB | $33 | |

JAZ 1GB Only $79

### Tape Drives

| | | |
|---|---|---|
| Sony 4GB - 5200 | $769 | |
| **Sony 8GB - 7000** | **$899** | |
| **Sony 8GB - 5000** | **$799** | SALE |
| **Sony 24GB - 9000** | **$1099** | |
| Sony AIT 50GB | $3295 | |

IOMega JAZ 1GB Ext $299!

JAZ 1GB Carts $79

### Optical & CDR Drives

| | | |
|---|---|---|
| **IOMega Jaz 1GB Ext./DG Jaz 1GB Ext** | **$299/269** | SALE |
| Jaz 1GB & 2x/6x CDR Combo Drive | $799 | |
| Ricoh 2x/2x/6x Rewrite CDR with Toast/cart | $599 | |
| Sony 2x/6xCDR with Toast/cart | $449 | |
| Yamaha 4x/6xCDR with Toast/cart | $599 | |

### Optical Cartridges

74 MINUTE CD ROM RECORDABLE MEDIA
$24.99 BOX OF 10 SALE

| | |
|---|---|
| **OEM 128MB** | **$6.79** |
| OEM 230MB | $8.99 |
| OEM 600/650MB | $24.99 |
| OEM 1.2/1.3GB | $36.99 |

### Monitors

| | | |
|---|---|---|
| Sony 100SX 15", 1280x1024, .25mm | $326 | |
| ViewSonic 15 E655, 1024x768, .28mm | $278 | |
| **ViewSonic EA 771AV, 1280x1024, .28mm** | **$529** | SALE |
| ViewSonic 17GA, 1152x870, .27mm | $578 | |
| Sony 200SX 17", 1024x768, .25mm | $603 | |
| Sony 200SF 17", 1280x1024, .25mm | $699 | |
| Sony 20SF IIT-300, 1600x1200, .30mm | $1379 | |
| ViewSonic GT800 20", 1600x1280, .30mm | $1069 | |
| **ViewSonic P810 21", 1600x1200, .25mm** | **$1279** | |
| **ViewSonic P815 21", 1600x1200, .25mm** | **$1419** | SALE |
| RasterOps MC803 21", 1800x1440, .22mm | $1799 | |
| RasterOps MC801 21", 1600x1200, .22mm | $1549 | |
| Radius PressView 21SR, 1600x1200, .25mm | $3189 | |

### Hard Drives

| Description (All SCSI-3 Ultra) | Internal | External | |
|---|---|---|---|
| Quantum 2.1GB 5400 rpm Stratus 9ms | $219 | $279 | |
| Quantum 2.2GB 7200 rpm Viking 7.9ms | $379 | $439 | |
| Quantum 3.2GB 5400 rpm Stratus 9ms | $319 | $379 | |
| **Quantum 4.3GB 5400 rpm Strautus 9ms** | **$339** | **$399** | SALE |
| Quantum 4.5GB 7200 rpm Viking 7.9ms | $499 | $559 | |
| Quantum 9.1GB 7200 rpm Atlas II 7.9ms | $889 | $949 | |
| **Fujitsu 9.1GB 7200 Ultra SCSI 7.9ms** | **$879** | **$939** | SALE |
| Seagate 4.5GB 7200 rpm Barracuda 4 7.9ms | $719 | $779 | |
| Seagate 9GB 7200 rpm Barracuda 9 7.9ms | $1089 | $1149 | |
| Seagate 4.5GB 10000 rpm Cheetah 7.9ms | $769 | $829 | FASTEST |
| Seagate 9.1GB 10000 rpm Cheetah 7.9ms | $1259 | $1319 | |

### Scanners

| | |
|---|---|
| LinoColor Jade Scanner 33bit | $479 |
| Agfa SnapScan/Color It | $289 |
| Agfa Arcus II/Transparency/Photoshop | $1539 |
| Agfa DuoScan/Transparency/Photoshop | $3999 |
| Epson Expression 636 Professional/Photoshop | $1379 |
| **Microtek Scanmaker III/Trans/Photoshop** | **$1379** SALE |
| Microtek Scanmaker V300/Color It | $149 |
| Microtek E6 Pro/ Full Photoshop | $519 |

### Laser Printers

| | | |
|---|---|---|
| **Epson Stylus Color 3000, 17x22 , Serial, Ink, 1440dpi** | **$1739** | SALE |
| Epson Stylus Color 800, 8.5x11, Serial, Ink, 1440dpi | $389 | |
| GCC EL 1212, 1200dpi, 8.5x14, Enet, 12ppm | $1429 | NEW |
| GCC XL 608, 600dpi, 11x17, Ethernet, 8ppm | $2289 | |
| GCC XL 616, 600dpi, 11x17, Ethernet, 16ppm | $2389 | |
| GCC XL 808, 800dpi, 11x17, Ethernet, 8ppm | $2949 | |
| GCC XL 1208, 1200dpi, 11x17, Ethernet, 8ppm | $3989 | |
| HP870CXI, 600dpi, 8.5x11, AppleTalk, Inkjet | $374 | |

# Digital GraphiX

Your Value Added Macintosh Source

Intel inside PC Systems also available

# 800-680-9062

USA & CANADA

VISA MasterCard $100,000 Lease Credit

310-783-1525 FAX
310-783-1515 INTERNATIONAL

20695 S. Western Ave #132
Torrance, CA 90501

http://www.DigitalGraphiX.com

Prices subject to change without notice. Not responsible for typographical errors. Call for an RMA number before returning equipment.

Order from 5:30am - 5:30pm M-F pst

Circle 36 on reader service card

CDW COMPUTER DISCOUNT WAREHOUSE

The right price.
The right advice.™

We're more

COMPUTER DISCOUNT WAREHOUSE™

"Call CDW® today and get some honest, friendly, professional advice that will save you more than money."

**Apple® Power Macintosh® 8600/250**

Authorized Catalog Reseller

- 250MHz PowerPC™ 604e processor
- 32MB RAM standard, expandable to 512MB
- 4GB Fast SCSI hard drive
- 24X CD-ROM drive

*Integrated Iomega Zip drive!*

**$2599.00** Monitor sold separately CDW 95335

**Apple® Power Macintosh® G3 Series** NEW!

- 233MHz or 266MHz PowerPC™ G3 processor
- 66MHz system bus speed
- 32MB RAM standard
- 4GB or 6GB IDE hard drive
- 24X Max CD-ROM drive
- Iomega Zip drive (on select models)

*As low as!*

**$1999.00** Monitor sold separately CDW 99851

## HARDWARE, SOFTWARE & PERIPHERALS AT *DISCOUNT* PRICES!

### COMPUTERS

**Apple® Power Macintosh® Series**

| | |
|---|---|
| 6500 225MHz PowerPC 603e 32MB 3GB 12X CD | 1599.00 |
| 6500 250MHz PowerPC 32MB 4GB 24X CD | 1999.00 |
| 6500 275MHz PowerPC 603e 32MB 4GB 12X CD | 2499.00 |
| 6500 275MHz PowerPC 32MB 6GB 24X CD Iomega Zip drive | 2499.00 |
| 6500 275MHz PowerPC 48MB 6GB 24X CD Iomega Zip drive | 2799.00 |
| 6500 300MHz PowerPC 603e 64MB 4GB 12X CD | 2499.00 |
| 6500 300MHz PowerPC 64MB 6GB 24X CD Iomega Zip drive | 2999.00 |
| 7300 200MHz PowerPC 604e 32MB 2GB 12X CD | 2199.00 |
| 7300 PC compatible 180MHz PowerPC 604e/166MHz Intel Pentium processor | 3199.00 |
| 7350 Application Server Solution 180MHz PowerPC 604e 48MB 4GB 12X CD | 2499.25 |
| 7350 Internet Server Solution 180MHz PowerPC 604e 48MB 4GB 12X CD | 3079.36 |
| 7350 AppleShare Server Solution 180MHz PowerPC 604e 48MB 4GB 12X CD | 3266.34 |
| 8600 250MHz PowerPC 604e 32MB 4GB 24X CD Zip drive | 2599.00 |
| 8600 300MHz PowerPC 604e 32MB 4GB 24X CD Zip drive | 3099.00 |
| 9600 300MHz PowerPC 604e 64MB 4GB 24X CD Iomega Zip drive | 3799.00 |
| 9650 Application Server Solution 350MHz PowerPC 604e 64MB 2x4GB 24X CD | 5389.99 |
| 9650 Internet Server Solution 350MHz PowerPC 604e 64MB 2x4GB 24X CD | 6885.67 |
| 9650 AppleShare Server Solution 350MHz PowerPC 604e 64MB 2x4GB 24X CD | 5993.70 |

**Apple® Macintosh® PowerBook® Series**

| | |
|---|---|
| 1400c 133MHz PowerPC 603e 16MB 1.3GB 11.3" active 8X CD | 2699.00 |
| 1400c 166MHz PowerPC 603e 16MB 2GB 11.3" active 8X CD | 2999.00 |
| 2400c 180MHz PowerPC 603e 16MB 1.3GB 10.4" active | 3499.00 |
| 3400c 180MHz PowerPC 603e 16MB 1.3GB 12.1" active 12X CD | 3199.00 |
| 3400c 200MHz PowerPC 603e 16MB 2GB 12.1" active 12X CD | 3799.00 |
| 3400c 240MHz PowerPC 603e 16MB 3GB 12.1" active 12X CD | 4499.00 |

UMAX Computer Corporation

**SuperMac Series Desktops**

| | |
|---|---|
| C500LT 200MHz PowerPC 603e 16MB 2GB 8X CD | 995.00 |
| C500e 200MHz PowerPC 603e 16MB 2GB 12X CD 10BT | 1095.00 |
| C500J 200MHz PowerPC 603e 16MB 2GB 12X CD | 1095.00 |
| J700 180MHz PowerPC 604e 24MB 2.1GB 8X CD | 1795.00 |

**SuperMac Series Mini-towers**

| | |
|---|---|
| C600 200MHz PowerPC 603e 16MB 2.1GB 8X CD | 1195.00 |
| C600LT 240MHz PowerPC 603e 24MB 2GB 12X CD | 1395.00 |
| C600x 240MHz PowerPC 603e 32MB 3GB 12X CD 10BT | 1795.00 |
| C600x 280MHz PowerPC 603e 32MB 4GB 12X CD 10BT | 2095.00 |

**SuperMac Series Mini-towers**

| | |
|---|---|
| S900 200MHz PowerPC 604e 32MB 2.1GB 8X CD 10BT | 2495.00 |
| S900 233MHz PowerPC 604e 32MB 2.1GB 8X CD 10BT | 2895.00 |
| S900L 250MHz PowerPC 604e 32MB 2.1GB 8X E100 | 3495.00 |
| S900DP 2x250MHz PowerPC 604e 64MB 4GB 12X E100 | 6995.00 |

### HANDHELD COMPUTERS

| | |
|---|---|
| eMate 300 | 799.00 |
| MessagePad 2000 | 965.83 |
| MessagePad 2000 w/keyboard & case | 1047.49 |

### MONITORS

| | |
|---|---|
| MultipleScan 15AV 15" 0.28mm | 388.46 |
| MultipleScan 720 17" 0.28mm | 649.00 |
| AppleVision 750 17" 0.25mm | 849.00 |
| AppleVision 850 20" 0.26mm | 1849.00 |
| AppleVision 850AV 20" 0.26mm | 1999.00 |

MAG

| | |
|---|---|
| DJ530 15" 0.28mm | 289.73 |
| DJ702E 17" 0.28mm | 499.23 |
| DJ920 21" 0.28mm | 1389.54 |

MAGNAVOX

| | |
|---|---|
| MB5314 15" 0.28mm | 329.31 |
| MB7000 17" 0.28mm | 459.54 |

NEC

| | |
|---|---|
| A500 15" 0.28mm | 319.01 |
| E500 15" 0.25mm | 374.91 |
| A700 17" 0.28mm | 567.43 |
| E700 17" 0.25mm | 659.18 |
| P750 17" 0.25mm | 785.91 |
| E1100 21" 0.28mm | 1249.22 |
| P1150 21" 0.28mm | 1388.76 |

SONY

| | |
|---|---|
| 100sf 15" 0.25mm | 368.32 |
| 100es 15" 0.25mm | 369.96 |
| 200sx 17" 0.25mm | 604.03 |
| 200sf 17" 0.25mm | 709.67 |
| 20sf2 20" 0.30mm | 984.31 |

ViewSonic®

| | |
|---|---|
| E641 14" 0.28mm | 198.12 |
| E655 15" 0.28mm | 279.02 |
| G653 15" 0.28mm | 1099.09 |
| E771 17" 0.27mm | 479.46 |
| EA771 17" 0.27mm black | 524.59 |
| G773 17" 0.26mm | 529.87 |
| 17GA 17" 0.27mm | 578.58 |
| GT775 17" 0.25mm | 645.47 |
| PT775 17" 0.25mm | 696.75 |
| G790 19" 0.26mm | 865.87 |
| G800 20" 0.28mm | 1029.32 |
| G810 21" 0.25mm | 1199.98 |
| P810 21" 0.25mm | 1285.48 |
| PT813 21" 0.28mm | 1364.58 |
| PT815 21" 0.25mm | 1429.71 |

### VIDEO BOARDS

ATi

| | |
|---|---|
| Nexus GA 8MB PCI | 496.20 |
| Xclaim TV external TV tuner | 79.79 |
| Xclaim 3D 4MB PCI | 177.03 |
| Xclaim 3D 8MB PCI | 229.32 |
| Xclaim VR 2MB PCI | 169.38 |
| Xclaim VR 4MB PCI | 239.98 |

Intergraphics Systems

| | |
|---|---|
| Turbo TV video capture | 98.19 |
| Twin Turbo 128M2 2MB PCI | 215.64 |
| Twin Turbo 128M4 4MB PCI | 309.96 |
| Twin Turbo 128M8 8MB PCI | 539.68 |

### COMMUNICATIONS

3Com

| | |
|---|---|
| Megahertz 33.6 Ethernet 10BT PC Card w/RJ11 | 299.16 |
| Sportster Voice 33.6 external | 76.62 |
| Sportster 33.6 external | 139.07 |
| Sportster 56K x2 faxmodem external | 217.99 |
| Courier I-modem | 339.78 |

### COMMUNICATIONS

GLOBAL VILLAGE

| | |
|---|---|
| TelePort 56K x2 external | 149.46 |
| TelePort 56K 56Flex external | 149.60 |
| 56K bps fax/modem PC Card | 249.11 |
| 56K bps fax/modem/Ethernet PC Card | 349.14 |

Hayes

| | |
|---|---|
| ACCURA 336 external | 137.56 |
| ACCURA 56K external | 176.51 |

### DATA STORAGE

iomega

| | |
|---|---|
| Zip drive 100MB SCSI external | 139.99 |
| 100MB Zip disk | 19.95 |
| 100MB Zip disk 3-pack | 49.95 |
| Jaz Drive 1GB SCSI-2 external | 399.95 |
| 1GB Jaz disk | 124.95 |
| 1GB Jaz disk 3-pack | 299.95 |
| Jaz Jet PCI SCSI interface for Power Mac | 99.95 |

LaCie Limited

| | |
|---|---|
| 2.1GB Quantum ST Ultra SCSI-3 internal | 279.00 |
| 3.2GB Quantum ST Ultra SCSI-3 internal | 349.00 |
| 4.3GB Quantum ST Ultra SCSI-3 internal | 429.00 |
| 6.4GB Quantum ST Ultra SCSI-3 internal | 569.00 |
| 9.1GB Quantum Ultra SCSI-3 internal | 1139.00 |
| 1.2GB Apple drive Ultra SCSI-3 external | 349.00 |
| 2GB Apple drive Ultra SCSI-3 external | 469.00 |
| 3GB Apple drive Ultra SCSI-3 external | 539.00 |
| 4GB Apple drive Ultra SCSI-3 external | 589.00 |

Quantum

| | |
|---|---|
| 1.6GB Fireball ST Ultra-ATA | 159.97 |
| 2.1GB Fireball ST Ultra-ATA | 198.87 |
| 2.1GB Fireball ST Ultra-SCSI | 239.15 |
| 3.2GB Fireball ST Ultra-ATA | 235.52 |
| 3.2GB Fireball ST Ultra-SCSI | 324.21 |
| 4.3GB Fireball ST Ultra-ATA | 279.32 |
| 4.3GB Fireball ST Ultra-SCSI | 367.07 |
| 6.4GB Fireball ST Ultra-ATA | 384.93 |
| 6.4GB Fireball ST Ultra-SCSI | 485.37 |

SyQuest

| | |
|---|---|
| EZFlyer 230MB external | 149.00 |
| EZFlyer 230MB cartridge | 24.99 |
| SyJet 1.5GB SCSI internal | 299.00 |
| SyJet 1.5GB SCSI external | 399.00 |
| SyJet 1.5GB cartridge | 125.00 |

### INPUT DEVICES

AGFA

| | |
|---|---|
| ePhoto 307 digital camera | 285.20 |
| SnapScan 600 flatbed scanner | 389.05 |
| StudioStar flatbed scanner | 818.80 |
| Arcus II flatbed scanner | 1319.72 |

ALPS

| | |
|---|---|
| Portable GlidePoint | 43.38 |
| Desktop GlidePoint | 69.84 |
| GlidePoint Keyboard | 109.61 |
| GlidePoint Keypad | 115.18 |

EPSON

| | |
|---|---|
| PhotoPC digital camera | 349.00 |
| PhotoPC 500 digital camera | 399.00 |
| PhotoPC 600 XGA digital camera | 799.00 |
| Action Scanning System II | 279.88 |
| ES-1000C color flatbed scanner | 299.24 |
| Expression 636 Executive scanner | 799.00 |
| Expression 636 Artist scanner | 999.00 |
| Expression 636 Professional scanner | 1399.00 |

### INPUT DEVICES

HEWLETT® PACKARD

| | |
|---|---|
| HP ScanJet 6100cse flatbed scanner | 799.00 |

Kodak digital science

| | |
|---|---|
| DC20 digital camera | 179.48 |
| DC25 digital camera | 289.34 |
| DC50 digital camera w/Zoom lens | 499.00 |
| DC120 digital camera w/Zoom lens | 799.00 |
| DC210 digital camera | 899.00 |

MICROTEK

| | |
|---|---|
| Color PageWiz personal scanner | 155.05 |
| ScanMaker V300 scanner | 139.41 |
| ScanMaker E3 scanner | 145.34 |
| ScanMaker E6 Standard scanner | 284.34 |
| ScanMaker E6 Professional scanner | 529.97 |

Nikon

| | |
|---|---|
| Coolpix 300 digital camera | 674.04 |
| AX-210 ScanTouch flatbed scanner | 569.78 |
| LS-20 Super CoolScan II | 909.09 |
| Super CoolScan film scanner | 1759.31 |

Polaroid

| | |
|---|---|
| PDC 2000/40 digital camera | 1445.40 |
| SprintScan 35LE film scanner | 796.54 |
| SprintScan 35ES film scanner | 1459.21 |
| SprintScan 35+ film scanner | 1827.00 |

UMAX

| | |
|---|---|
| Astra 600S flatbed scanner | 169.55 |
| Astra 1200S flatbed scanner w/full Adobe PhotoDeluxe | 279.07 |
| Astra 1200S flatbed scanner w/full Adobe Photoshop | 519.31 |
| PowerLook II | 1395.00 |

VISIONEER

| | |
|---|---|
| PaperPort vx scanner | 147.53 |

### PRINTERS

| | |
|---|---|
| LaserWriter 4/600 PS | 819.71 |
| LaserWriter 12/640 PS | 1564.22 |
| LaserWriter 16/600 PS | 1799.52 |
| LaserWriter 8500 | 2399.29 |
| Color LaserWriter 12/660 PS | 4286.57 |
| Color StyleWriter 4100 | 237.03 |
| Color StyleWriter 4500 | 329.18 |
| Color StyleWriter 6500 | 469.68 |

EPSON

| | |
|---|---|
| Stylus Color 600 | 269.00 |
| Stylus Color 800 | 399.00 |
| Stylus Color 1520 | 799.00 |
| Stylus Color 3000 | 1999.00 |
| Stylus Photo | 499.00 |

HEWLETT® PACKARD

| | |
|---|---|
| HP DeskJet 340 portable ink jet printer | 295.01 |
| HP DeskJet 870Cxi printer | 388.71 |
| HP DeskJet 1600CM printer | 1969.33 |
| HP LaserJet 6MP printer | 879.85 |
| HP LaserJet 5M printer | 1609.51 |
| HP LaserJet 5Si MX printer | 3556.38 |

### UPS SYSTEMS

APC

| | |
|---|---|
| PowerChute software for Novell NetWare | 59.20 |
| Back-UPS Office | 139.15 |
| Back-UPS 200 | 89.91 |
| Back-UPS 400 | 144.44 |
| Back-UPS 600 | 239.24 |
| Smart-UPS 450NET | 315.03 |
| Smart-UPS 700NET | 389.49 |
| Smart-UPS 1000NET | 538.15 |
| Smart-UPS 1400NET | 675.25 |
| SurgeArrest P7 Home | 9.92 |
| SurgeArrest Personal | 19.40 |
| SurgeArrest Pro | 28.15 |
| SurgeArrest Network | 29.95 |

**800-509-4239**

**www.cdw.com**

Visit CDW® on the Internet for information on more than 12,000 products

©1997 CDW® Computer Centers, Inc.
200 N. Milwaukee Avenue, Vernon Hills, IL 60061 MV1188A-1198

# than just a great price...We're great service too!

## NEC
NEC Technologies

NEW!

**MultiSync A700**
**17" color monitor**

- 17" flat square technology CRT, 15.6" viewable image size
- 0.28mm dot pitch
- Maximum resolution: 1280 x 1024 at 65Hz
- 3-year CRT, parts and labor warranty

**$567.43** CDW 91661

## Zip™ drive
iomega

- 100MB uncompressed/200MB compressed capacity on a single Zip disk
- 29ms seek time; up to 1.25 MB/second sustained transfer rate
- SCSI interface

MW ★★★★ August 1997

**$139.99** CDW 51390

PRICE DROP!

NEW! **Zip Plus $199.95** CDW 94951

- With AutoDetect™–the speed of SCSI and the flexibility of parallel connections

## EPSON®
**Stylus Color 600**

Includes Look Your Best Color Pak

- 1440 x 720 dpi photo quality color and laser quality black text on premium paper
- 720 x 720 dpi photo quality color and laser quality black text on plain paper
- Print speeds: up to 6 ppm black; up to 4 ppm color

MacUser ★★★★ September 1997

MW ★★★★★ November 1997

PRICE DROP! **$269.00** CDW 80668

## CDW® CARRIES MORE THAN 20,000 PRODUCTS! IF YOU DON'T SEE IT, CALL!

### SOFTWARE

**Adobe**

| | |
|---|---|
| Acrobat V3.0.1 CD | 179.73 |
| After Effects V3.1 CD | 609.05 |
| Illustrator V7.0 CD | 369.96 |
| Illustrator V7.0 competitive upg CD | 129.66 |
| Illustrator V7.0 version upg CD | 115.73 |
| PageMaker V6.5 CD | 549.48 |
| PageMaker V6.5 competitive upg CD | 178.17 |
| PageMaker V6.5 version upg CD | 89.87 |
| PageMill V2.0 CD | 95.32 |
| Persuasion V4.0 CD | 239.90 |
| Persuasion V4.0 upg CD | 115.72 |
| PhotoDeluxe CD | 49.47 |
| Photoshop V4.0 CD | 549.29 |
| Photoshop V4.0 version upg CD | 159.58 |
| Premiere V4.2 CD | 487.92 |
| Premiere V4.2 upg CD | 129.65 |
| Type Manager Deluxe V4.0 CD | 62.37 |
| Type Reunion Deluxe V2.0 | 38.14 |

**Apple**

| | |
|---|---|
| Apple At Ease V3.0 | 29.25 |
| Apple Mac OS 7.6 w/Internet Connection Kit CD | 94.76 |
| Apple Remote Access V3.0 client | 52.29 |
| Apple Remote Access V3.0 server | 109.13 |
| Mac OS 8 CD | 94.47 |
| Mac OS 8 upg CD | 66.96 |

$30 REBATE CLARIS ClarisWorks Office **$88.85** CDW 92035

* $30 mail-in upg/comp upg manufacturer rebate through 9/30/98. Restrictions apply; please call for details.

**caere**

| | |
|---|---|
| OmniForm V2.0 | 129.33 |
| OmniPage Direct V2.0 | 57.64 |
| OmniPage Pro V7.0 CD | 475.36 |
| OmniPage Pro V7.0 upg CD | 115.10 |

**Connectix**

| | |
|---|---|
| Conflict Catcher V4.0 | 59.01 |

**CLARIS**

| | |
|---|---|
| ClarisDraw V1.0 | 179.75 |
| ClarisImpact V2.0 | 79.00 |
| ClarisWorks V5.0 CD | 89.58 |
| Emailer V2.0 | 42.17 |
| FileMaker Pro V3.0 server | 889.09 |
| FileMaker Pro V3.0 server upg | 276.60 |
| Home Page V2.0 CD | 86.99 |
| Organizer V2.0 | 63.20 |

**Connectix**

| | |
|---|---|
| RAM Doubler 2 | 53.80 |
| Speed Doubler 2 | 53.91 |
| Speed Doubler 8 | 54.20 |
| VideoPhone V2.0 (software only) | 54.66 |
| Virtual PC w/PC DOS CD | 64.90 |
| Virtual PC w/Win 95 CD | 134.76 |
| Virtual PC w/Win V3.1 CD | 132.76 |

### SOFTWARE

**COREL**

| | |
|---|---|
| Corel Gallery V1.0 CD | 19.80 |
| Corel Gallery V2.0 CD | 34.96 |
| Corel Mega Gallery CD | 62.09 |
| Corel Print House CD | 28.88 |
| Corel Stock Photo Library 1 CD | 865.75 |
| Corel Stock Photo Library 2 CD | 869.80 |
| Corel Stock Photo Library 3 CD | 886.75 |
| Corel Super Ten Select Photos CD | 35.88 |
| Corel WEB.GALLERY CD | 61.81 |
| Corel WordPerfect V3.5 CD | 155.92 |
| Corel WordPerfect V3.5 upg CD | 79.82 |
| CorelDRAW 6 Suite CD | 369.01 |
| CorelDRAW 6 Suite upg CD | 135.23 |

**DeLORME**

| | |
|---|---|
| Phone Search USA V3.0 | 28.60 |
| Street Atlas USA V4.0 | 38.91 |
| Street Atlas USA V4.0 and Phone Search USA V3.0 value pack | 52.88 |
| Tripmate | 144.60 |

**DENEBA**

| | |
|---|---|
| Canvas V5.0 3.5 + CD | 385.29 |
| Canvas V5.0 competitive upg | 138.26 |
| Ultra Paint Home V1.0 | 16.25 |

**EQUILIBRIUM**

| | |
|---|---|
| DeBabelizer Lite V1.1 | 64.00 |
| DeBabelizer Toolbox V1.6 | 229.54 |
| DeBabelizer Toolbox V1.6 5-user | 929.50 |

**Extensis**

| | |
|---|---|
| Cyberpress V1.0 | 129.21 |
| Intellihance V3.0 CD | 89.78 |
| MaskPro V1.0 CD | 269.45 |
| Page Tools V2.0 | 89.70 |
| PhotoTools V2.0 CD | 116.62 |
| Portfolio V3.0 CD | 89.27 |
| Preflight Pro | 89.78 |
| QuarkXPress Power Trio | 179.41 |
| QX Effects | 116.62 |
| QX-Tools V2.0 CD | 88.04 |
| VectorTools V2.0 CD | 89.64 |

NEW! CLARIS FileMaker Pro V4.0

Upgrade CD **$88.52** CDW 96405

CD **$179.41** CDW 96404

**FWB**

| | |
|---|---|
| CD-ROM ToolKit V2.0 | 48.24 |
| Hard Disk ToolKit V2.01 | 48.66 |

**GRAPHSOFT**

| | |
|---|---|
| Blueprint V5.0 | 189.53 |
| MiniCAD V7.0 | 514.41 |

**INSIGNIA SOLUTIONS**

| | |
|---|---|
| SoftWindows 95 V4.0 CD | 174.59 |
| SoftWindows for Performa | 115.50 |
| SoftWindows V3.0 CD | 128.28 |

### SOFTWARE

**Intuit**

| | |
|---|---|
| QuickBooks Pro V4.0 | 179.58 |
| QuickBooks V4.0 | 109.63 |
| Quicken Basic 98 | 41.93 |
| Quicken Deluxe 98 CD | 59.99 |

**macromedia**

| | |
|---|---|
| Authorware 4 CD | 2048.29 |
| Authorware 4 Interactive Studio CD | 3065.72 |
| Director 6 upg CD | 385.35 |
| Director Multimedia Studio 6 CD | 929.66 |
| Director Multimedia Studio 6 upg CD | 479.57 |
| Flash 2 CD | 185.78 |
| FreeHand 7 CD | 379.42 |
| FreeHand 7 competitive upg CD | 139.17 |
| FreeHand 7 upg CD | 138.97 |
| FreeHand Graphics Studio 7 CD | 459.08 |
| FreeHand Graphics Studio 7 competitive upg CD | 199.45 |
| FreeHand Graphics Studio 7 upg CD | 184.65 |
| SoundEdit 16 V2.0 CD | 219.68 |
| SoundEdit 16 V2.0 plus DECK II CD | 339.58 |

NEW! Connectix Speed Doubler 8 For Mac OS 8

**$54.20** CDW 95799

**MetaCreations**

| | |
|---|---|
| Art Dabbler | 42.18 |
| Bryce 2 Accessory Kit CD | 47.95 |
| Bryce 2 CD | 179.00 |
| Detailer CD | 276.10 |
| Expression CD | 127.27 |
| Kai's Photo Soap CD | 41.91 |
| Kai's Power Goo CD | 49.95 |
| Kai's Power Tools 3 CD | 129.00 |
| KPT Actions Accessory Kit CD | 42.18 |
| Painter V5.0 CD | 259.16 |
| Painter V5.0 upg CD | 88.57 |
| Poser V2.0 CD | 119.79 |
| Poser V2.0 upg CD | 62.22 |
| Ray Dream Designer V4.1 | 89.36 |
| Ray Dream Studio V5.0 CD | 259.08 |
| Ray Dream Studio V5.0 upg CD | 89.08 |
| Infini-D V4.0 CD | 499.14 |

**METROWERKS**

| | |
|---|---|
| CodeWarrior Discover Programming | 62.90 |
| CodeWarrior for BeOS | 118.86 |
| CodeWarrior for PalmPilot | 298.53 |
| CodeWarrior Latitude | 328.71 |
| CodeWarrior Professional CD | 479.83 |
| CodeWarrior Professional upg CD | 359.78 |

**Microsoft**

| | |
|---|---|
| Bookshelf 98 CD | 43.73 |
| Cinemania 97 CD | 29.03 |
| Encarta Deluxe 97 CD | 67.18 |
| Excel V5.0 | 298.83 |
| Excel V5.0 upg | 115.37 |
| Flight Simulator V4.0 | 39.94 |
| FrontPage V1.0 CD | 134.24 |
| Office V4.2.1 Small Business CD | 449.76 |
| Office V4.2.1 Small Business upg CD | 269.77 |
| PowerPoint V4.0 upg | 115.72 |
| Project V4.0 | 424.45 |
| Project V4.0 upg | 134.89 |
| Visual FoxPro V3.0 CD | 445.46 |
| Visual FoxPro V3.0 upg CD | 267.42 |
| Word V6.0.1 | 298.83 |
| Word V6.0.1 version upg | 115.71 |
| Works V4.0 | 43.92 |

### SOFTWARE

**ProCD**

| | |
|---|---|
| Select Phone Deluxe 97 CD | 62.41 |
| Select Phone 97 CD | 43.22 |

Norton Utilities SYMANTEC. Norton Utilities V3.5

CD **$92.93** CDW 88335

**QUARK**

| | |
|---|---|
| QuarkImmedia V1.0 CD | 669.96 |
| QuarkXPress V3.32 CD | 659.29 |

**STRATA**

| | |
|---|---|
| Studio Pro V1.75 | 856.86 |
| Vision 3D V4.0 | 58.67 |

**SYMANTEC.**

| | |
|---|---|
| ACT! V1.0 for Newton | 87.81 |
| ACT! V2.5 upg | 46.18 |
| ACT! V2.8 | 147.63 |
| Norton Disklock V4.0 | 71.85 |
| Norton Utilities V3.5 CD | 92.93 |
| SAM AntiVirus V4.5 | 63.67 |
| Suitcase V3.0 | 63.67 |

### CDW® DIRECTORY

| | |
|---|---|
| PC sales | 800-650-4239 |
| Mac sales | 800-509-4239 |
| Corporate sales | 800-280-4239 |
| Corporate software sales | 800-294-4239 |
| Government and Education sales | 800-615-4239 |

### CDW® TELEPHONE HOURS

Sales
Monday-Friday 7 a.m.-9 p.m. CT
Saturday 9 a.m.-5 p.m. CT

**Tech Support for Customers**
Monday-Friday 7 a.m.-9 p.m. CT
Saturday 9 a.m.-5 p.m. CT

**BUY WITH CONFIDENCE**
**CDW® IS A NASDAQ TRADED COMPANY**
TICKER SYMBOL CDWC D & B rated 5A1 Duns 10-762-7952

Credit card charges are not submitted until time of shipment. For your protection, we ship only to your credit card's verified billing address. Freight is calculated as the carrier's actual freight charge plus insurance and packaging material. The cost of insurance is 0.35% (0.0035) of the order total. Packaging materials will not exceed $4.00 for single package shipments or $6.00 for multi-package shipments. Before returning any product, you must obtain an RMA number. Non-defective returns are subject to a restocking fee. Software, chips and other electronic components are not returnable. Allow 10 business days for shipping when paying by personal check. All pricing subject to change. For all prices, products and offers, CDW reserves the right to make adjustments due to changing market conditions, product discontinuation, manufacturer price changes, errors in advertisements or other extenuating circumstances. All trademarks and registered trademarks are the sole property of their respective owners.

COMPUTER DISCOUNT WAREHOUSE™

**CDW® is an Apple Authorized Catalog Reseller – call us for all of your Apple needs!**

**800-509-4239**

**www.cdw.com**

©1997 CDW® Computer Centers, Inc.
MW9804II 1747 200 N. Milwaukee Avenue, Vernon Hills, IL 60061

Circle 2 on reader service card

# J&R COMPUTER WORLD

Businesses, Lease Your Next Computer thru the J&R Corporate Sales Division (details below)

Giveaways!

Call (212) 238-9000 for Information.

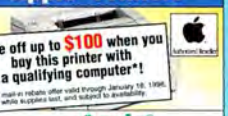
## Modems

**Global Village**
56K PCMCIA FaxModem
•56Kbps Net-capable (K56Flex), 33.6Kbps data, and 14.4Kbps fax
•Designed for Apple PowerBooks with PCMCIA slot

**$279.99** (GLV 56KPCMCIA)

Global Village TelePort 56K x2 (GLV TELE56KX2) ..... $159.99
Global Village TelePort 56K KFlex (GLV TELE56KFLEX) ..... $159.99
U.S. Robotics Ext. Sportster 56K PCMCIA (USR MACSPORT56) .. $219.99

## Apple® Printers



Take off up to $100 when you buy this printer with a qualifying computer*!
Apple mail-in rebate offer valid through January 16, 1998, while supplies last, and subject to availability.

**Apple® LaserWriter® 4/600**
•600 dpi •PostScript level 2 support

**$799.99** (APP M3898LLA)

*$50 mail-in rebate, or $100 mail-in rebate with qualifying computer*!*

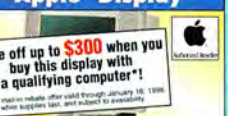
**LaserWriter® 12/640 PS**
•4MB RAM •Prints up to 12-ppm

**$1599.99** (APP M3977LL/A)

*$150 mail-in rebate, or $300 mail-in rebate with qualifying computer*!*

*Select Power Macintosh 8600, Power Macintosh 8500, and PowerBook 3400 computers only.

## Apple® Display



Take off up to $300 when you buy this display with a qualifying computer*!
Apple mail-in rebate offer valid through January 16, 1998, while supplies last, and subject to availability.

**Apple® Multiple Scan 15AV Display**

**$399.99** (APP M4614LL/A)

Multiple Scan 720 17" Display (16.1" VIS) (APP M6151LL/A) $649.99
AppleVision® 750 17" Display (16.1" VIS) (APP M5238LL/A) $849.99
AppleVision® 750-AV 17" Display (16.1" VIS) (APP M5239LL/A) $949.99
AppleVision® 850 20" Display (19" VIS) (APP M5229LL/A) $1849.99
AppleVision® 850-AV 20" Display (19" VIS) (APP M5228LL/A) $1999.99

©1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, LaserWriter, Macintosh, Power Macintosh, PowerBook, and QuickTake are registered trademarks of Apple Computer Inc. All other trademarks are the property of their respective owners. All Apple products are designed to be accessible to individuals with disabilities. For more information in the U.S. only, call 1-800-766-2333 or TDD 1-800-833-6223.

## Macworld New York at J&R Computer World

PRIZES!

### HOLIDAY SHOPPING SHOWCASE

**DECEMBER 4, 5, 6, 7, 1997**

***FREE In-Store Demos Show You What To Do with a Mac:***

- "Desktop and Media Creation" by MetaCreations
- "Web Page Designs"
- "Video Editing" by Apple
- "Gaming and Edutainment" by IBM
- "CD-ROM Creation" by Philips
- "Digital Photography" by Olympus and MetaCreations
- "PDAs" by Apple Newton and 3COM
- "Internet"– Global Village
- "Music Creation" by G-Vox

## The Apple® Add-on Take-off Mail-in Rebate

***Get up to a $300 mail-in rebate on select Apple® Power Macintosh® 6500 or 8600 systems purchased with any Apple Display! Offers good through Jan. 16, 1998.**

**Apple® Power Macintosh® 8600/250 32MB/4GB/24xCD/Zip™**

•250MHz PowerPC™ 604e processor •32MB RAM •4GB hard drive
•24x CD-ROM •Iomega® Zip™ drive
•Monitor sold separately

**$2599.99** (APP M5905LL/A)

**$250 mail-in rebate with the purchase of any Apple Display!**

Apple® Power Macintosh® 6500/250 .... (APP M6189LL/A) .... $1999.99 + $200 rebate*
Apple® Power Macintosh® 6500/300 .... (APP M6079LL/A) .... $2299.99 + $200 rebate*
Apple® Power Macintosh® 6500/275 .... (APP M6191LL/A) .... $2499.99 + $200 rebate*
Apple® Power Macintosh® 6500/275 .... (APP M6190LL/A) .... $2799.99 + $200 rebate*
Apple® Power Macintosh® 6500/300 .... (APP M6192LL/A) .... $2999.99 + $200 rebate*
Apple® Power Macintosh® 8600/300 .... (APP M6092LL/A) .... $3099.99 + $300 rebate*

©1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, LaserWriter, Macintosh, Power Macintosh, PowerBook, and QuickTake are registered trademarks of Apple Computer Inc. All other trademarks are the property of their respective owners. All Apple products are designed to be accessible to individuals with disabilities.
For more information in the U.S. only, call 1-800-766-2333 or TDD 1-800-833-6223.

PowerPC and the PowerPC logo are trademarks of International Business Machines Corporation, used under license therefrom. Apple, the Apple logo, Macintosh, Power Macintosh, PowerBook, Apple SuperDrive & AppleDesign are registered trademarks of Apple Computer, Inc. Zip drive is a trademark of Iomega Corporation.

Authorized Reseller

## J&R CORPORATE SALES BUSINESS LEASING:

**No Money Down, No Payments for 30 Days!**

1) Allows flexibility to add or upgrade equipment at any time
2) Conserves your capital
3) Saves time, credit decisions are quick and easy
4) Covers entire packages– equipment, software, service contracts, and peripherals

*All lease payments are exclusive of applicable taxes. Minimum leasing payment is $50 per month. All leases are subject to credit approval and require an administrative fee of $49.95 to be billed on the first invoice. Leasing program administered by Dana Commercial Credit. Leases are Business Leases, $0 down, 36 month term with $1.00 purchase option.

J&R CORPORATE SALES

**Call J&R Corporate Sales 1-800-221-3191 or 1-212-238-9080**

($1,400 Minimum Lease Amount)

## Entertainment Software

**20th Century Fox** *Simpsons Virtual Springfield* **$19.99**

*Ariel's Story Studio* by Walt Disney ..... $34.99
*Cat In The Hat* by Broderbund ..... $39.99
*Click Art 125,000 Deluxe Image Pack* by Broderbund . $49.99
*Cosmopolitan Virtual Makeover* by SegaSoft ..... $34.99
*Creatures* by Mindscape ..... $34.99
*FA-18 Hornet (3.0)* by Graphic Sim. ..... $29.99

**WizardWorks** *Quake* **$42.99**

*Guitar 101* by G-VOX ..... $39.99
*Imperialism* by Mindscape ..... $42.99
*Links LS (for Power Macintosh)* by Access ..... $44.99
*Master of Orion II* by WizardWorks ... $42.99
*Musician Plus* by G-VOX ..... $119.99
*CyberSound Studio 3.0 with Kybd.* by CyberSound $89.99

## SUNCOM

**Suncom FX3000 Fully Programmable Joystick for Mac**
•Control panel allows creation, modification and saving custom functions or specific games
•Pre-programmed templates

**$39.99** (SUN FX3000MAC)

**Suncom SXF Plus Game Pad for Mac**
•Quick and responsive game control
•Comfortable, ergonomic design
•12 programmable action buttons

**$34.99** (SUN SFXPLUS)

**Order Code: MW0198**

**To Order Toll Free and Receive a Free Catalogue**

# 800-221-8180

24 Hours, 7 Days, Anywhere In The USA or FAX us at 1-800-232-4432

**MAIL ORDERS**: J&R Computer World • 59-50 Queens Midtown Expressway • Maspeth, Queens NY 11378
CALL 1-800-221-8180 for shipping information. DO NOT SEND CASH.

*Not responsible for typographical or pictorial errors. Some quantities may be limited. All merchandise brand-new, factory-fresh and 100% guaranteed!*

PRIZES!

Call (212) 238-9000 for Information.

# J&R COMPUTER WORLD

One of America's Largest Authorized Apple Dealers

Authorized Reseller

Authorized Reseller

## Macworld New York at J&R Computer World

### HOLIDAY SHOPPING SHOWCASE

Giveaways!

**DECEMBER 4, 5, 6, 7, 1997**

***FREE Classes Show You What To Do with a Mac:***

- **"Mac OS8, Features and Benefits" by Apple**
- **"PC Compatibility" by Connectix**
- **"Microsoft *Office*" by Microsoft**
- **"ClarisWorks for Kids" by Claris**
- **Question & Answer Sessions with Macworld Editors**

**Classes are limited**

**Call (212) 238-9000 for information**

## The Apple® Add-on Take-off Mail-in Rebate

**Receive an Apple® QuickTake® 200 camera or 32MB memory upgrade *FREE* with any Apple Macintosh® PowerBook® 3400 system!**

**Mail-in offer good through January 16, 1998.**

**Apple® Macintosh® PowerBook® 3400c/180 16/1.3GB/CD**

•180MHz PowerPC™ processor •12.1" active-matrix SVGA display •16MB RAM •1.3GB hard drive •1MB VRAM •12x CD-ROM •33.6Kbps modem

**$3199.99** (APP M4597LL/B)

**Add on either a *FREE* 32MB memory upgrade or Apple QuickTake 200 camera, and more, with purchase!**

**Apple® PowerBook 3400/200c/200** •200MHz PowerPC™ processor •12.1" active-matrix SVGA display •16MB RAM •2GB hard drive •12x-speed CD-ROM •1.4MB Apple SuperDrive® •33.6Kbps modem.... (APP M4595LL/B) .... **$3799.99 + *Add-ons!***

**Apple® PowerBook 3400c/240 16/3GB/12xCD** •240MHz PowerPC™ processor •12.1" active-matrix SVGA display •16MB RAM •3GB hard drive •12x CD-ROM •256K level 2 cache •33.6Kbps modem..... (APP M5550LL/A) .... **$4499.99 + *Add-ons!***

Authorized Reseller

©1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, LaserWriter, Macintosh, Power Macintosh, PowerBook, and QuickTake are registered trademarks of Apple Computer Inc. All other trademarks are the property of their respective owners. All Apple products are designed to be accessible to individuals with disabilities. For more information in the U.S. only, call 1-800-766-2333 or TDD 1-800-833-6223.

PowerPC and the PowerPC logo are trademarks of International Business Machines Corporation, used under license therefrom.

## Digital Cameras

**Olympus D-600L** Digital Still Camera

**$1299.99** (OLM D600L)

Casio QV-70 (CAS QV70) ..... $329.99

Panasonic PV-DC1000 (PAN PVDC1000) ..... $379.99

Minolta Dimage V Kit (MIN DIMAGE/KIT) ..... $499.99

Olympus D-320L (OLM D320L) ..... $699.99

Olympus D-500L (OLM D500L) ..... $899.99

## Iomega Jaz Drives

**Iomega** 2GB External Jaz Drive

•Pack up to 2GB on each disk (4GB with compression) •Operates in DOS, Windows, Win95, WinNT, Mac environments •Includes 2GB disk

**$649.99** (BER JAZEXT2GIG)

Iomega Spare 2GB Disk *preformatted for Mac* (BER MAC2GIGCART) .. $169.99

Iomega Spare 2GB Disk 3-Pack *for Mac* (BER MAC2GIGTRI) ... $449.99

Iomega Jaz Insider 2GB Drive (BER JAZINT2GIG) ..... $549.99

## Pacific Image Scanners

**Pacific Image** ScanAce III with Full *Photoshop 4.0*

•Single-pass flatbed scanner •600 x 1200 dpi optical res •Scans up to 8.5" by 14" •68.7 billion colors (36-bit) •SCSI cable and terminator

**$899.99** (PCF ACEIIIPH-MA) ***after $100 mail-in rebate*** *(Rebate expires 12/31/97)*

ScanAce II Mac Scanner (PCF ACEII-MAC) ..... $279.99

ScanAce II with full *Photoshop 4.0* (PCF ACEIIPH-MAC) ..... $449.99

## Business Software • Business Software • Business Software

**Claris** *Works Office*

**$89.99**

*Conflict Catcher (4.0)* Casady & Greene... $64.99
*Cu See Me Enhanced (2.1)* by White Pine..... $69.99
*Eudora Mail Pro (3.1.1)* by Qualcomm ..... $59.99
*FileMaker Pro (4.0)* by Claris..... $199.99
*Flash 2* by Macromedia ... $199.99
*Hard Disk Toolkit (2.06)* by FWB..... $124.99

**Intuit** *Quicken Deluxe 98*

**$59.99**

*Illustrator (7.0) Action Pack* by Adobe..... $399.99
*Intellihance (3.0)* by Extensis..... $89.99
*Japanese Language Kit (1.2)* by Apple ..... $139.99
*Kai's Photo Soap* by MetaCreations... $44.99
*Mac OS8* by Apple ..... $89.99
*MacLinkPlus Translators Pro (9.7)* by DataViz..... $89.99

**Netscape** *Communicator (4.0) Internet Access Edition*

**$64.99**

*Norton Utilities (3.5)* by Symantec ..... $99.99
*PageMill (2.0.1) CD-ROM* by Adobe..... $99.99
*PageMill (2.0.1) CD-ROM/floppy* by Adobe..... $99.99
*Phonebook America* by Pro CD..... $9.99
*PhotoTools (1.1)* by Extensis..... $99.99
*QuarkXPress (3.32)* by Quark..... $649.99

**Microsoft** *Office (4.21)*

**$479.99**

*QuickKeys (3.5.2)* by CE..... $89.99
*RAM Doubler (2.0)* by Connectix..... $59.99
*Suitcase (3.0)* by Symantec..... $69.99
*Symantec AntiVirus for Mac (4.5)* by Symantec..... $69.99
*Virtual PC with Windows 95* by Connectix..... $149.99
*Works For Kids* by Claris..... $39.99

## Order Your Free Catalogue Now!

*All Major Credit Cards Accepted*

**To Order Toll Free and Receive a Free Catalogue**

# 800-221-8180

**24 Hours, 7 Days, Anywhere in the USA or FAX us at 1-800-232-4432**

**Circle 282 on reader service card**

# MacConnection®

**The Original Macintosh Mail-Order Source–Since 1984!**

**Order as late as 3 a.m. ET and *STILL* get Overnight Delivery!**
Order Online: www.macconnection.com

**Hurry! While Supplies Last**
As Low As $799 A7995

# PRICES SLASHED on StarMax™

**5 year warranty**

Monitor sold separately

**FREE Software**
- ✔ Conflict Catcher
- ✔ SAM
- ✔ Norton Utilities
- ✔ FWB ToolKit
- ✔ Adobe Acrobat

## StarMax 3000/5000 Series

- Up to 275MHz 603e PowerPC or 604e PowerPC 200MHz
- 32 or 64MB RAM expandable to 160MB
- Up to 4.3GB Hard Drive
- Up to 16X SCSI CD-ROM Drive
- Up to 50MHz Bus Speed!

Mac OS Compatible

MOTOROLA

**StarMax 3000**

47995 AMT-3200-N ..... $799
(200MHz 603e/32MB/2.5GB/8X/opt. modem)

47996 AMT-3240-N ..... 949
(240MHz 603e/32MB/4.3GB/8X/28.8K modem)

**StarMax 5000**

47992 AMT-53275EN ..... $1199
(275MHz 603e/32MB/2.5GB/16X SCSI/opt. modem)

47991 AMT-53250EN ..... 1499
(250MHz 603e/32MB/2.5GB/16X SCSI/opt. modem)

47993 AMT-54200N ..... 1499
(200MHz 604e/64MB/2.5GB/16X SCSI/opt. modem)

**SAVE Up to $1000!**

Was ~~$5499~~ NOW $4499

***$1000 Price Drop, Make It Yours***

## Apple PowerBook 3400 Series Features

- 603e Processor
- 12.1" Active Color
- 16MB RAM
- 12X CD-ROM
- 256K Cache
- 33.6K modem w/10BT Ethernet

*Add an internal VST Zip Drive for only $299.95* 38024

41446 Apple PowerBook 3400C ..... $3199
(180MHz/16MB/1.3GB)

41445 Apple PowerBook 3400C ..... 3799
(200MHz/16MB/2.0GB)

38464 Apple PowerBook 3400C ..... 4499
(240MHz/16MB/3.0GB)

# ORDER TODAY!

## FileMaker Pro 4.0

Create powerful databases and take them to the Web!
Only $99
44990

## Quicken Deluxe 98

Discover new ways to make the most of your money!
$20 *After $20 mfr.'s mail-in rebate
$39.95* 46302

## Reunion 5.0

NEW!

Dig up the roots of your family tree! Create family timelines, genealogy charts, more!
$99.95 44177

## FREE Action Pack

FREE Action Pack w/purchase of full version of PageMaker, Photoshop or Illustrator!
HURRY! Limited Time Offer While Supplies Last!
Over $1000 Value FREE!
Call for details

# Peripherals!

## Motorola Lifestyle 33.6

NEW LOW PRICE!
Surf the Net F-A-S-T for not a lot of money!
ONLY $49.95 47628

## EPSON Perfection 600 Scanner

NEW!
46647

- New, versatile flatbed scanner for business!
- FREE award-winning premium software!

Only $299

## Canon BJC-4550 Printer

31539

- Big, beautiful, photo-quality prints up to 11" x 17"!
- Amazing 720 x 360 dpi color!

Incredible price for Canon Quality!
Only $299

## Seagate Cheetah 9.1GB HD

NEW!
10,000 RPM
Internal Ultra Wide SCSI
4531
$1199

## Iomega ZipPlus

NEW!
Everything a Zip Drive has ... Plus!

- Faster performance
- One-drive-fits-all design
- Cool multimedia software

$199.95 44705

## MAXpowr Citation CPU Upgrade Card

Up to 260% faster!
47595

- Best-Value 604e Processor Upgrade!
- Easy plug-and-play installation!

Only $349.95

## USR PalmPilot Pro Bundle

Get the best-selling handheld PC at a new lower price, *PLUS FREE PalmPilot Hard Cover* (a $9.95 value!) PLUS "Pick-a-Present" promotion!

- 1MB of memory for storing over 8,000 records
- Easy one-time setup

Palm Pilot

New Low Price!
Now only $349.95
47566

## Apple Color StyleWriter 4500

NEW!

*Economical 4-color printing!*

- 600 x 600 dpi black and white; 600 x 300 dpi color
- Up to 5 pages per minute
- Includes a built-in 100-sheet paper tray, free software, and everything you need to get started
- Serial cable and cartridges include

Only $339
42059

**7-Time Winner! Best Mail-Order**

OUR POLICY • VISA, MASTERCARD, AMERICAN EXPRESS, and NOVUS cards. No surcharge. • Most products are covered by manufacturer's warranty against defects for at least 30 days from the invoice date. • All returns require prior authorization; please call for an RMA. • We are not responsible for typographical errors. • Pricing and promotions are subject to change without notice. Continental U.S.: Shipping Charges: $4.95 per order up to 3 pounds. On orders over 3 pounds, shipping is $4.95 plus an additional $1.25 per pound or fraction thereof. Please call for weight charge information. Items of excessive size and/or weight may require additional days to deliver via a freight carrier. Please check with your sales rep for more details. Barring events beyond our control, all credit card orders phoned in weekdays by 3 a.m. ET will ship Airborne Express delivery the next business day. Saturday delivery available to many areas upon request at no additional charge. Order all day Saturday thru noon Sunday for Monday delivery. Some areas require an extra day delivery. APO/FPO, International orders and Hawaii, Alaska, Canada, Puerto Rico, U.S. Virgin Islands: Shipping may require additional time and charges. All other areas: Call 603-446-4444 or FAX 603-446-7791 M-F 9 a.m.-5:30 p.m. ET. ©1997 PC Connection, Inc., Milford, NH. MacConnection & the raccoon characters are registered trademarks of PC Connection, Inc. All other trademarks remain the property of their respective companies.

# Get the Best for Less!

**Extended Service Plan** — **NEW!** Supplements the manufacturer's warranty for a full 4 years from date of purchase!

*Newest, Hottest Version!*

## Newton MessagePad 2100

**Only $999**

47973

**FREE** With any MessagePad 2100 – Lunarlanding, SubPatrol and 2 WriteRights! ($70 value)

Everything you want in a portable computer, without the bulk, weight and short battery life!

- 162MHz StrongArm SA-110 RISC processor
- 8MB RAM (4MB DRAM, 4MB Flash)
- 8MB ROM
- Built-in microphone and speaker

45215 8MB Flash Card FR ..... $99.95
45220 16MB Flash Card FR ..... 169.95

**Start At Only $1799***

*NEW! The Most Power-Packed Home Mac Ever!*

Monitor sold separately

## Power Mac 6500 Series

**$200 Rebate! Call for details**

Mac OS 8 included on NEW Models!

MS Office included on Business Models

45745 Apple Power Mac 6500 ..... $1799*
(250MHz/32MB/4GB/24X/56K modem)

45748 Apple Power Mac 6500 ..... 2299*
(275MHz/32MB/6GB/24X/56K modem & Zip Drive)

45746 Apple Power Mac 6500 ..... 2599*
(275MHz/48MB/6GB/24X/56K modem & Zip Drive)

45750 Apple Power Mac 6500 ..... 2799*
(300MHz/64MB/6GB/24X/56K modem & Zip Drive)

*After mail-in rebate when purchased with qualifying apple display.

**Start At Only $1995**

NEW!

Monitor sold separately

47170

## UMAX J700

*The fastest, most upgradeable mid-range computing solution!*

- 233MHz 604E PowerPC Processor
- 24MB RAM
- 2.0GB IDE HD
- 24X CD-ROM
- 512K L2 Cache
- 33.6 External Modem

**Upgradeable Processor!**

47170 UMAX J700 ..... $1995
(233MHz 604E/2GB/24MB/24X/33.6K modem)

## Best Deals on Hardware & Software!

### Utilities

| | | |
|---|---|---|
| 42673 | Virtual PC w/Mech Warrior 2 | $147.95 |
| 37633 | Conflict Catcher Mac | 64.95 |
| 32164 | Symantec Antivirus Mac (SAM) | 69.95 |
| 44801 | Private File | 47.95 |
| 44802 | Aladdin Flashback | 27.95 |
| 43375 | FWB Storage Wizard | 34.95* |
| | *After manufacturer's rebate | |
| 43757 | Miramar PC Maclan Remote | 159.95 |
| 41769 | Dantz Retrospect | 149.95 |

### Business

| | | |
|---|---|---|
| 43105 | ClarisWorks Office for Mac | 99* |
| | *$30 rebate for upgrade tradeup customers | |
| 32233 | Quicken Deluxe 98 | 59.95 |
| 39704 | FastTrack Schedule 5.0 | 169.95 |
| 45026 | Employee Manual Maker 4.0 | 89.95 |
| 39315 | Working Papers | 149.95 |
| 44990 | FileMaker Pro 4.0 Tradeup/Upgrade | 99 |

### Graphics & Design

| | | |
|---|---|---|
| 41786 | Fusion 2.0 for Mac | 294.95 |
| 35801 | Eye Candy 3.0 Power Mac (CD) | 119.95 |
| 40602 | Portfolio 3.0 | 94.95 |
| 43868 | Adobe Photoshop 4 | 539.95 |
| 43866 | Adobe PageMaker 6.5 | 539.95 |
| 44942 | Adobe Illustrator 7.0 | 369.95 |
| 46324 | GoLive CyberStudio 2.0 | 289.95 |
| 31327 | Adobe PageMill 2.0 | 94.95 |

### Games

| | | |
|---|---|---|
| 43330 | Civilization II | 47.95 |
| 43329 | Quake | 47.95 |
| 42144 | Diablo for Mac | 46.95 |
| 40728 | Duke Nukem 3D | 49.95 |
| 42119 | Starfleet Academy | 49.95 |

### Personal Productivity

| | | |
|---|---|---|
| 46966 | Tripmate for Mac | 159.95 |
| 43723 | Street Atlas USA 4.0 for Mac | 42.95 |
| 44178 | Reunion 5 upgrade from Reunion 4 | 39.95 |
| 24643 | Learn to Speak Spanish | 79.95 |
| 43258 | Complete National Geographic Magazine 108 years | 169.95 |

### Accessories

| | | |
|---|---|---|
| 39536 | Kensington Orbit | 69.95 |
| 32497 | Masterlock Notebook Security Cable | 39.95 |
| 25696 | Mouse in the Box | 39.95 |
| 33990 | Solar Panel Mercury II | 299.95 |

### CD-ROM

| | | |
|---|---|---|
| 38365 | La Cie Ext 2x6 CD-R Drive w/ Toast | 399 |
| 38347 | MDS 12X External SCSI CD-ROM | 139.95 |
| 46415 | Hi-Val Sountastic 24X CD-ROM | 189.95 |
| 46412 | MDS 24X External SCSI CD-ROM | 179.95 |

### Digital Cameras

| | | |
|---|---|---|
| 39582 | Kodak DC120 Digital Zoom | 799 |
| 45096 | Ricoh RDC-300 Digital Camera | 499 |
| 43512 | Sandisk 20MB Compact Flash w/PCMCIA Adapter | 299.95 |
| 43841 | Fuji DX-5 Digital Camera | 299.95 |

### Graphics/Video Cards & Accelerators

| | | |
|---|---|---|
| 44886 | ATI Nexus GA | 549 |
| 40281 | Imagine 128 Ser2 8M PCI | 799.95 |
| 37869 | IMS Turbo TV PC & Mac TV Card | 99 |
| 45169 | MAXpowr Pro | 1249 |
| 40465 | RenderPix 502-A | 2995 |

### Monitors

| | | |
|---|---|---|
| 28602 | Hitachi MC20 20" | 1399 |
| 38305 | Mag Innovision 710V2 17" | 499 |
| 32695 | Mag Innovision DX700T 17" | 699 |
| 36276 | Mitsubishi 91 TXM 21" | 1549 |
| 39386 | ViewSonic Optiquest Q53 15" | 299.95 |

**Official Riven Solutions Guide** 47662

### Storage

| | | |
|---|---|---|
| 25447 | Jaz 1GB SCSI Insider | 299.95 |
| 39581 | Microtech RoadRunner 1GB IDE PowerBook HD | 309 |
| 19171 | Zip 100 SCSI Drive | 129.95 |
| 19867 | Zip Disk 10-Pack Mac | 129.95 |

### Printers

| | | |
|---|---|---|
| 37819 | Epson Stylus Color 600 | 269 |
| 37817 | Epson Stylus Color 800 | 399 |
| 41860 | Epson Stylus Photo | 499 |
| 42897 | Epson Stylus Color 1520 | 799 |
| 42275 | Epson Stylus Color 3000 | 1999 |

**FREE! CALL TODAY!**

or your FREE C Connection r MacConnection talog subscription! ention source code 198MW)

800-600-8254

**SUPER LOW SIMMS!**

Memory as low as $3.12 per MB

8MB as low as $29.95

16MB as low as $49.95

32MB as low as $99.95

**FREE SERVICE! Custom Configured Systems**

Call for details!

**Start Saving!** ask about... LEASING OPTIONS for BUSINESS CALL 800-800-0014

**20,000 HOT PRODUCTS 24 HRS A DAY!**

**800-600-8254**

**www.macconnection.com**
Now shop on-line with a name you can trust!

198MW

Circle 145 on reader service card

# ProDirect

## 800-524-9952

**Service • Performance • Price • Always**™

SPEED TUNED HARD DRIVE ProDirect

At ProDirect, we work closely with drive manufacturers to identify and optimize key internal mode settings. This enables our hard drives to operate at peak efficiency. We call it Speed-Tuning™ and it works. The proof is in the award. AGAIN!

MW EDITORS' CHOICE May '97 | BEST BUY June '97 | BEST BUY Aug '97

ALWAYS THE RIGHT DRIVE FOR THE JOB GUARANTEED

**90 Day ProDirect Performance Guarantee**

"TEST DRIVE" ANY HARD DRIVE WE SELL FOR ALMOST 3 MONTHS WITH OUR UNBEATABLE 90 DAY PERFORMANCE GUARANTEE.

SHOP WITH CONFIDENCE VISA MasterCard American Express FREE

**ProDIRECT means...**
- Toll-Free Tech Support
- Same Day Shipping
- No Sales Tax Outside MI
- Reseller Pricing Availabl
- Educational and Government Discounts Available
- Never a Surcharge!

**FREE SHIPPING! Just Ask!**

Ad No. WD198

## MICROPOLIS

### TOMAHAWK AV
4.5GB Wide (M4345WAV) $515
9.1GB Wide (M3391WAV) $875
8ms Seek 2048K Buffer 7200 RPM 5 Year Warranty

### TOMAHAWK
9.1GB (M3391) $810
8ms Seek 512K Buffer 7200 RPM 5 Year Warranty

### CAPRICORN
4.3GB (M3243) $339
8.5ms Seek 512K Buffer 7200 RPM 5 Year Warranty

### STINGER
Your Best Value In 4 GB

| | | | |
|---|---|---|---|
| 4.5 GB | (M4743N) | $325 | $375 |
| | (M4743W) WIDE | $330 | $410 |

9ms Seek 512K Buffer 5400 RPM

### TOMAHAWK AV
WOW! 2MB AV BUFFER

| | | INTERNAL | EXTERNAL |
|---|---|---|---|
| 4.5 GB | (M4345AV) | $505 | $565 |
| | (M4345WAV) WIDE | $515 | $595 |
| 9.1 GB | (M3391AV) | $840 | $895 |
| | (M3391WAV) WIDE | $875 | $955 |

8ms Seek 2048K Buffer 7200 RPM

### TOMAHAWK
EXCELLENT VALUE & RELIABILITY

| | | | |
|---|---|---|---|
| 4.1 GB | (M4341N) | $465 | $525 |
| | (M4341W) WIDE | $495 | $575 |
| 4.5 GB | (M4345N) | $485 | $545 |
| | (M4345W) WIDE | $495 | $575 |
| 9.1 GB | (M3391N) | $810 | $870 |
| | (M3391W) WIDE | $830 | $910 |

8ms Seek 512K Buffer 7200 RPM

## Seagate

### CHEETAH
FASTEST DRIVE RUNNING
THE CHEETAH FAMILY BOASTS A 10,000 RPM SPINDLE SPEED WHICH GREATLY ENHANCES IT'S OVERALL PERFORMANCE.
4.5GB Wide (ST34501W) $675
9.1GB Wide (ST19101W) $1110
7.9ms Seek 10,000 RPM 512 CACHE BUFFER

### BARRACUDA
BEST BUY June '97
4.5GB Wide (ST34572W) $575
9.1GB Wide (ST19171W) $965
8ms Seek 512K Buffer 7200 RPM 5 Year Warranty

### CHEETAH
7.9ms Seek 10,000 RPM 512K Buffer
FASTEST DRIVE RUNNING!

| | | INTERNAL | EXTERNAL |
|---|---|---|---|
| 4.5 GB | (ST34501N) | $655 | $715 |
| | (ST34501W) WIDE | $675 | $755 |
| 9.1 GB | (ST19101N) | $1085 | $1145 |
| | (ST19101W) WIDE | $1110 | $1190 |

### BARRACUDA
LEGENDARY PERFORMANCE!
8 ms Seek 7200 RPM 512K Buffer

| | | | |
|---|---|---|---|
| 2.5 GB | (ST32272N) | $365 | $425 |
| | (ST32272W) WIDE | $395 | $475 |
| 4.5 GB | (ST34572N) | $565 | $625 |
| | (ST34572W) WIDE | $595 | $675 |
| 9.1 GB | (ST19171N) | $935 | $995 |
| | (ST19171W) WIDE | $965 | $1045 |

### ELITE
AWESOME CAPACITY!
11 ms Seek 5400 RPM 2048 Buffer

| | | | |
|---|---|---|---|
| 23 GB | (ST423451N) | $1775 | $1875 |
| | (ST423451W) WIDE | $1805 | $1905 |

## IBM

### ULTRASTAR ES
RELIABILITY • SPEED • VALUE

| | | | |
|---|---|---|---|
| 2.1 GB | (DCAS32160S) | $265 | $315 |
| | (DCAS32160W) WIDE | $325 | $405 |
| 4.3 GB | (DCAS34330S) | $385 | $435 |
| | (DCAS34330W) WIDE | $435 | $515 |

8ms Seek 512K Buffer 5400 RPM

### ULTRASTAR XP
HIGH SPEED DTP AND AV DRIVES

| | | | |
|---|---|---|---|
| 4.5 GB | (DCHS34550S) | $595 | $645 |
| | (DCHS34550S) WIDE | $625 | $705 |
| 9.1 GB | (DCHS39100S) | $775 | $825 |
| | (DCHS39100W) WIDE | $795 | $875 |

## Quantum

CAPACITY FOR THE EXTRAORDINARY™

### VIKING
4.5GB (Q34550VK) $475
8.5ms Seek 512K Buffer 7200 RPM 5 Year Warranty

### ATLAS II
MW EDITORS' CHOICE
2.5GB (Q32275) $325
8ms Seek 512K Buffer 7200 RPM 5 Year Warranty
9.1GB (Q39100) $855
8ms Seek 1024K Buffer 7200 RPM 5 Year Warranty

### VIKING
ULTRA VALUE & PERFORMANCE

| | | INTERNAL | EXTERNAL |
|---|---|---|---|
| 2.5 GB | (Q32275VK) | $355 | $405 |
| | (Q32275VKW) WIDE | $375 | $455 |
| 4.5 GB | (Q34550VK) | $475 | $535 |
| | (Q34550VKW) WIDE | $485 | $565 |

8ms Seek 512K Buffer 7200 RPM 5 Year Warranty

### ATLAS II
AWARD WINNING RELIABILITY

| | | | |
|---|---|---|---|
| 2.5 GB | (Q32275N) | $325 | $385 |
| | (Q32275W) WIDE | $335 | $415 |
| 4.5 GB | (Q34550) | $555 | $615 |
| | (Q34550W) WIDE | $575 | $655 |
| 9.1 GB | (Q39100N) | $855 | $905 |
| | (Q39100N) WIDE | $875 | $945 |

8ms Seek 512K Buffer 7200 RPM 5 Year Warranty
8ms Seek 1024K Buffer 7200 RPM 5 Year Warranty

### STRATUS

| | | INTERNAL | EXTERNAL |
|---|---|---|---|
| 2.1 GB | NEW HEIGHTS | $229 | $279 |
| 3.2 GB | OF PERFORMANCE | $289 | $349 |
| 4.1 GB | AND VALUE | $335 | $385 |
| 6.4 GB | | $455 | $505 |

9.5ms Seek 128K Buffer 5400 RPM 5 Year Warranty

## Ultra SCSI Acceleration Cards

| | |
|---|---|
| ATTO Express PCI Ultra SCSI Single Channel. | 31 |
| ATTO DualChannel Express PCI Ultra SCSI 3 40 MB/Sec. | 58 |
| FWB JackHammer Fast/Wide 16BIT SCSI 2 for Nubus Macs. | 44 |
| FWB PCI JackHammer Single Channel. Ultra SCSI PCI | 38 |
| ADAPTEC PowerDomain 2940 UWM Single Channel PCI | 24 |
| ADAPTEC PowerDomain 3940 UWM Dual Channel PCI | 53 |

# Get a PowerRAID™ for Maximum Mac Transfer Rates

RAID SPEED TUNED ProDirect

BEST BUY

★★★★½ MacUser 8/97
"The fastest array in this test, the ProDirect PowerRAID M18"

RAID Level 5 Available. Great for Servers!

All ProDirect PowerRaids are ready to use, Plug and Play and Include: Pre Configured Adaptec 2940 Ultra Wide Accelerator (Also available with High performance Multi Channel Accelerator), Raid-Tuned Hard Drives, ProDirect Raid Center Enclosures and "Remus Raid Software. And, all PowerRaid Components are covered by a 5 year 48 hour replacement warranty. At ProDirect we know that time means money...YOUR Money!

Seagate is Media 100 and Truevision and AVID Recommended!

TRUEVISION AVID MEDIA 100

At ProDirect, we work closely with drive manufacturers to identify and optimize key internal mode settings. This enables our PowerRAIDs™ to operate at peak efficiency. We call it Raid-Tuning™ and it works. The proof is in the award. AGAIN!

### Seagate PowerRAID SC18
18GB CHEETAH
SPEED DEMON!
This Raid features drives rotating at 10,000 RPM which greatly enhances the overall transfer rate of this 18 GB Raid.
FIXED $3375 | REMOVABLE $3575

### MICROPOLIS PowerRAID M18
BEST BUY
18 GB MICROPOLIS ULTRA WIDE
"The fastest array in this test, the ProDirect PowerRAID M18"
★★★★½ MacUser 8/97
FIXED $2795
Incredible 4 MB Cache Buffer for Max. AV Transfers
REMOVABLE $2995

### Seagate PowerRAID SB36
36GB BARRACUDA
MASSIVE SPEED
This Raid features the proven Barracuda technology recommended for use with most video editing systems
FIXED $5295 | REMOVABLE $5695

### Seagate ProDIRECT PowerRAID

| GB | DRIVES | ACCEL CHANNEL | FIXED | HOT-SWAP |
|---|---|---|---|---|
| 8 | Barracuda ST3471W | Single | 1895 | 2095 |
| 18 | Barracuda ST19171W | Single | 2895 | 2995 |
| 36 | Barracuda ST19171W | Single | 5295 | 5695 |
| 54 | Barracuda ST19171W | Single | 7995 | 8525 |
| 63 | Barracuda ST19171W | Single | 9295 | 9995 |

### MICROPOLIS ProDIRECT PowerRAID

| | | | | |
|---|---|---|---|---|
| 8 | Tomahawk M4345WAV | Single | 1795 | 1895 |
| 18 | Tomahawk M3391WAV | Single | 2795 | 2895 |
| 36 | Tomahawk M3391WAV | Single | 4995 | 5395 |
| 54 | Tomahawk M3391WAV | Single | 7795 | 8325 |
| 63 | Tomahawk M3391WAV | Single | 8895 | 9695 |

## Awesome Memory Prices

HIGHEST QUALITY LIFE TIME WARRANTY

PRICES SLASHED!

| DIMMs 168 PIN 60ns | | | | SIMMs | |
|---|---|---|---|---|---|
| SIZE | 5Volt FAST PAGE | 5Volt EDO | 3 Volt* | 72 PIN 60ns | 30 PIN 70ns |
| 4 MB | n/a | n/a | n/a | 18 | 24 |
| 8 MB | 26 | 26 | 26 | 24 | 24 |
| 16 MB | 53 | 53 | 53 | 46 | 99 |
| 32 MB | 99 | 99 | 99 | 93 | n/a |
| 64 MB | 199 | 199 | 199 | n/a | n/a |
| 128 MB | call | call | call | n/a | n/a |

Additional Discounts on Memory Apply with System Purchase. Ask for details

## REMOVABLE STORAGE DRIVES

**Iomega ZIP**
100 MB Removable with One Cartridge
External: $148
Internal PowerMac: $158
Internal Mac Clones: $138
ZIP Cartridges $15.95 ea.
$12. ea. in 10-pack after rebate

**Iomega JAZ**
1GB Removable with One Cartridge
External: $399
Internal PowerMac: $298
Internal Mac Clones: $278
JAZ Cartridges $88 ea.

**SyQuest SyJet**
1.5 GB Removable with One Cartridge
External: $489
SyJet Cartridges $98 ea. SyQuest

**YAMAHA CD-R400 6X Reader 4X Writer ONLY $575**
2Mb Buffer with Toast Pro CD-R Software
650 MB CDR Media $3.99 w/CDR Purchase

## Hot, New Tape Back-up Drives

RETROSPECT SOFTWARE INCLUDED

WOW! INCREDIBLE DLT™ 4000 40GB
TRANSFER RATE 160 MB/MIN
$3995
IN STOCK TODAY

SPEEDY TAPE DRIVES PERFECT FOR AV WORK OR SERVER

SPECTACULAR SPEED DDS3 DAT SONY 9000 24GB
TRANSFER RATE 150 MB/Min
$1175

### ON THE FLY INSTANT BACKUP!

BLISTERING SPEED DLT™ 7000 70GB
TRANSFER RATE 600 MB/MIN
$7395

AWESOME SPEED DLT™ 2000XT 30GB
TRANSFER RATE 150 MB/MIN
$2675

| CAPACITY | MODEL | TRANSFER RATE | SAL |
|---|---|---|---|
| 8 GB | HP 1599 | 90 MB/Min. | 1145 |
| 8 GB | CTD8000 | 60 MB/Min. | 795 |
| 8 GB | Sony 7000 | 90 MB/Min. | 975 |
| 24 GB | HP1554 DDS3 | 120 MB/Min. | 1445 |
| 24 GB | Sony 9000 DD3 | 120 MB/Min. | 1175 |
| 48 GB | HP1553 DDS2 | 60 MB/Min. | 2485 |
| 50 GB | Sony AIT SDX-300C 8mm | 120 MB/Min. | 3395 |
| 144 GB | HP1559 DDS3 | 120 MB/Min. | 3995 |
| 150 GB | DLT™ 2500XT | 150 MB/Min. | 4895 |
| 210 GB | DLT™ 2700XT | 150 MB/Min. | 6535 |
| 200 GB | DLT™ 4500 | 180 MB/Min. | 6525 |
| 280 GB | DLT™ 4700 | 180 MB/Min. | 7995 |

**ProDirect** 10830 Nesbitt Ave South Bloomington, MN 55437

Orders: 800-524-9952
Hours: M-F 8AM-7PM Sat. 10AM-3PM
International Orders: 612-884-0012
ProDirect Fax: 612-941-1109
Toll Free Tech Support 800-524-9952
Internet: www.pdisales.com
E-mail: info@pdisales.com

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. RETURNED ORDERS ARE SUBJECT TO A RESTOCKING FEE. INTERNATIONAL CUSTOMERS PAY ALL SHIPPING CHARGES. ALL SHIPPING CHARGES ARE NON-REFUNDABLE TO RETURN MERCHANDISE CALL FOR AN RMA NUMBER. ALL RMAS MUST BE RETURNED WITHIN 10 BUSINESS DAYS OF ISSUANCE. CUSTOMERS ARE RESPONSIBLE FOR SHIPPING CHANGES TO RETURN PRODUCT



Circle 135 on reader service card

# The LLB Company, Inc.

# 1-800-848-8967

EST 1990

Email: sales@llb.com International:425.746.0229 Fax:425.746.5168

## DESKTOP MEMORY UPGRADES

**168-Pin 60ns DIMMs** — PowerMacs Series - 60ns

| Module | Item# | Price |
|---|---|---|
| 128MB | 12864 | $748 |
| 64MB | 64764 | $199 |
| 32MB | 32764 | $102 |
| 16/8MB | 16764 | $55/36 |

**EDO 3.3v 60ns DIMMs** — Starmax & PowerM 4400

| Module | Item# | Price |
|---|---|---|
| 64MB | 64764EDO3.3 | $247 |
| 32MB | 32764EDO3.3 | $112 |
| 16MB | 16764EDO3.3 | $77 |
| 8MB | 8764EDO3.3 | $46 |

**EDO 5v 60ns DIMMs** — Power Base Series

| Module | Item# | Price |
|---|---|---|
| 64MB | 64764EDO5V | $205 |
| 32MB | 32764EDO5V | $114 |
| 16MB | 16764EDO5V | $59 |
| 8MB | 8764EDO5V | $55 |

**72-Pin SIMMs** — PowerMac 6100...

| Module | Item# | Price |
|---|---|---|
| 32MB | 32632 | $98 |
| 16MB | 16732 | $48 |
| 8MB | 8032 | $30 |
| 4MB | 4032 | $21 |

**30-Pin SIMMs** — Mac IIci, si, se, IIcx...

| Module | Item# | Price |
|---|---|---|
| 16MB | 1601 | $103 |
| 8MB | 8888 | $50 |
| 4MB | 4000 | $18 |
| 2MB | 2000 | $12 |

## POWERBOOK MEMORY UPGRADES

**POWERBOOK 2400**

| Module | Item# | Price |
|---|---|---|
| 64MB | PB2400-64 | $382 |
| 32MB | PB2400-32 | $186 |
| 16MB | PB2400-16 | $93 |
| 8MB | PB2400-8 | $62 |

**POWERBOOK 2300**

| Module | Item# | Price |
|---|---|---|
| 48MB | PB2300-48 | $288 |
| 36MB | PB2300-36 | $250 |
| 20MB | PB2300-20 | $162 |
| 16MB | PB2300-16 | $118 |

**POWERBOOK 3400**

| Module | Item# | Price |
|---|---|---|
| 128MB | PB3400-128 | $662 |
| 96MB | PB3400-96 | $620 |
| 64MB | PB3400-64 | $320 |
| 32MB | PB3400-32 | $151 |
| 24MB | PB3400-24 | $145 |

**POWERBOOK DUO**

| Module | Item# | Price |
|---|---|---|
| 36MB | PBDUO-36 | $250 |
| 28MB | PBDUO-28 | $239 |
| 20MB | PBDUO-20 | $139 |
| 14MB | PBDUO-14 | $115 |
| 12MB | PBDUO-12 | $109 |

**POWERBOOK 5300**

| Module | Item# | Price |
|---|---|---|
| 48MB | PB5300-48 | $284 |
| 32MB | PB5300-32 | $182 |
| 16MB | PB5300-16 | $104 |
| 8MB | PB5300-8 | $65 |

**POWERBOOK 1400**

| Module | Item# | Price |
|---|---|---|
| 24MB | PB1400-24 | $159 |
| 16MB | PB1400-16 | $101 |
| 8MB | PB1400-8 | $60 |

**POWERBOOK 500**

| Module | Item# | Price |
|---|---|---|
| 32MB | PB500-32 | $146 |
| 16MB | PB500-16 | $80 |
| 8MB | PB500-8 | $72 |
| 4MB | PB500-4 | $62 |

**POWERBOOK 150**

| Module | Item# | Price |
|---|---|---|
| 28MB | PB150-28 | $218 |
| 20MB | PB150-20 | $160 |
| 8MB | PB150-8 | $70 |
| 4MB | PB150-4 | $45 |

## DRIVES

LACIE

| | |
|---|---|
| Q 2.1 GB (Int) 5400RPM | $275 |
| Q 2.1 GB (Ext) 5400RPM | $374 |
| Q 4.3 GB (Ext) 5400RPM | $713 |
| Q 6.4 GB (Ext) 7200RPM | $634 |
| Q 9.1 GB (Ext) 7200RPM | $1149 |
| LaCie 24X Ext CD-Rom Drive | $199 |

Jaz Drive with 1 Free Disk $399

Zip Drive w/Disk $149

## PRINTERS & SCANNERS

UMAX Computer Corporation $299

| | |
|---|---|
| Astra 600 | $179 |
| Astra 1200 w/Full PS & Trans | $650 |

EPSON

Stylus 600 Inkjet $319

| | |
|---|---|
| Stylus 800 Inkjet | $399 |
| Expression 636 Executive | $805 |
| Stylus Color 1520 | $807 |
| Stylus Color 3000 | $1922 |

HEWLETT PACKARD

| | |
|---|---|
| Laserjet 4MV 600 DPI | $2795 |
| Laserjet 6MP 600 DPI | $927 |

## MODEMS

GLOBAL VILLAGE COMMUNICATION As Low As $159

| | |
|---|---|
| Teleport 56 K56 Flex Ext | $159 |
| Teleport 56K X2 Ext | $388 |
| Powerport 56k PCMCIA/Enet | $183 |

DIAMOND MULTIMEDIA

| | |
|---|---|
| SUPRA Express 56e K56 Flex Sp | $195 |
| SUPRA Express 56e K56 Flex Ext | $166 |
| SUPRA Express v.34 Ext 14.4 S/R | $72 |

US Robotics

| | |
|---|---|
| Sportster 56K X2 Ext Fax | $211 |
| Sportster 33.6 Ext w/voice(14.4 Fax) | $99 |
| Sportster 56K XJack PCMCIA | $249 |

newertech

MAXPOWR PRO $1248

NETCOM

1 MONTH OF FREE INTERNET SERVICE & $40 WORTH OF CD-ROM SOFTWARE ONLY $1.99 WITH ANY LLB PURCHASE

## MONITORS

HOT!

NEC

| | |
|---|---|
| NEC A500 15" Multisync | $329 |
| NEC A700 17" Multisync | $677 |
| NEC E500 15" Multisync | $404 |

SONY

| | |
|---|---|
| SO 200SF 17" Multiscan | $799 |
| SO 300SFt 20" Triniton | $1618 |

ViewSonic

| | |
|---|---|
| VS 15VGA 15" Optiquest | $277 |
| VS 17GS 17" 17GS | $583 |

## UMAX Computer Corporation SUPERMAC SYSTEMS

| SuperMac | Processor/Speed | | |
|---|---|---|---|
| UCC 500L-200LT | 603E | 200MHz (LT) | $997 |
| UCC 600L-240LT | 603E | 240MHz (LT) | $1397 |
| UCC 600L-200 | 603E | 200MHz | $1076 |
| UCJ 700L-180 | 603E | 180MHz | $1775 |
| UCJ 700L-233 | 604E | 233MHz | $1945 |
| UCS 900L-200 | 604E | 200MHz | $2492 |
| UCS 910E-250 | 604E | 250MHz (E) | $4246 |
| UCS 910E-250D | 604E | 250MHz (DP) | $6759 |

POWER3D

- Perspective-corrected texture mapping
- Bi-linear and advanced texture filtering
- Gouraud shading and texture modulation
- Anti-aliasing and alpha blending
- Special effects: fog, transparency and translucency

The New Exciting Graphics Accelerator from TechWorks $199

1-800-848-8967

Electronic Orders: E-Mail:sales@llb.com · Web Site: Under Reconstruction...Please bear with us.... · PO's are accepted upon approval · All major credit cards accepted and charged when order is shipped · No surcharge on credit cards · Prices subject to change · Open 6am to7pm M-F, 8am to 1pm Sat.PST · Returns subject to restocking fee · Not responsible for errors · We welcome International orders · Orders received before 8:00p.m. EST weekdays shipped same day

## PRODUCT INDEX


| Category | Page No. |
|---|---|
| **Business Operations** | **.164-165** |
| Bar Code | |
| Inventory Management | |
| Print Utility | |
| Video/Display | |
| **Communications/ Networking** | **.169** |
| Cross Platform | |
| **Education/ Entertainment** | **.165-167** |
| Discount Software | |
| Music | |
| **Memory & Upgrades** | **.189-193** |
| Memory Upgrade | |
| **Digital Advertising Coordinator:** | |
| Brian Mullin | .415.267.1735 |
| brian_mullin@macworld.com | |

| Category | Page No. |
|---|---|
| **Peripheral Products** | **.168-169** |
| Cross Platform | |
| Magnetic Media | |
| Security Systems | |
| Software Publishing | |
| **Services** | **.193-194** |
| Color Printing | |
| Data Recovery | |
| Digital Production | |
| Repair | |
| **Systems & Peripherals** | **.169-188** |
| **Account Managers** | **.800.825.4237** |
| Lisala Beatty | .212.503.5153 lbeatty@zd.com |
| Eric Birnbaum | .212.503.5043 ebirnbau@zd.com |
| Monifa Kelly | .212.503.5155 mkelly@zd.com |
| Michelle LeWinter | .212.503.5122 mlewinte@zd.com |
| Jessica Turko | .212.503.5140 jturko@zd.com |
| **Sales Manager:** | |
| Tom Foran | .212.503.5145 thomas_foran@zd.com |



# IF WE DON'T SELL IT, IT'S NOT WORTH LOOKING AT.

PANELIGHT IS YOUR ONE STOP SHOP FOR ALL LEADING BRANDS
SALES, RENTALS, & LEASES • MONEY BACK GUARANTEE.

TRUSTWORTHY TECHNICAL GUIDANCE AND SUPPORT

QUICK DELIVERY

MONEY-BACK GUARANTEE

Epson · CTX · nView · In Focus

CALL PANELIGHT FOR OUR FREE CATALOG: 1-800-726-3599.
MON.-FRI., 6:30AM-5:30PM P.S.T.
24-HR. FAX: 415-986-3817
OR E-MAIL: SALES@PANELIGHT.COM
HTTP://WWW.PANELIGHT.COM

PANELIGHT DISPLAY SYSTEMS, INC.,
P.O. BOX 190940,
SAN FRANCISCO, CA 94119.
OR CALL 415-772-5800.

TREMENDOUS SELECTION OF ALL LEADING PROJECTORS

SALES, LEASES OR RENTALS

DISCOUNT PRICES

Toshiba · Polaroid · Proxima · Panasonic

Panelight DISPLAY SYSTEMS, INC.

CALL THE EXPERTS AT PANELIGHT DISPLAY SYSTEMS, INC.

CIRCLE 441 ON READER SERVICE CARD

# Bar Code Pro® v3.5 with Veribar™

Create perfect PostScript (EPS) bar code graphics for Quark, PageMaker, Illus., etc.

Bar Code Pro® features:

- ✓ All popular bar code symbologies
- ✓ Any printer resolution! No fonts required.
- ✓ No prior bar code experience necessary.
- ✓ No more bar code film masters.
- ✓ Veribar built-in verification (optional).
- ✓ Pays for itself in a single use.

"Takes sixty seconds to install, five minutes to master!"— *MacWorld*

CALL FOR FREE DEMO

SNX www.snx.com (formerly SYNEX) Tel: (800) 619-0299 Fax: (718) 768-3997

CIRCLE 444 ON READER SERVICE CARD

# Newton® Joins the Mac-Barcode® Family!

Newton® Walk-About™
Mac-Barcode ProLabel Software
SmartLaser/SmartScanner/SmartPen
Thermal Transfer Printer
Call for Literature & Free Demo Disk

The Mac-Barcode Co.
800-733-7592
http://www.mac-barcode.com

# Software Blowout!!! Tel:1-800-785-0048

## Microsoft

| | |
|---|---|
| MS Office 4.21 (Word, Excel, Powerpnt) | $199 |
| MS Word 5.0/6.0.1 | $75/125 |
| MS Excel 5/Powerpoint 4 | $150 |
| Front Page | $75 |
| MS Project 4.0 | $250 |
| MS Office Win 97 | $295 |

## Adobe

| | |
|---|---|
| Photoshop 4.0 | $335 |
| Pagemaker 6.5 | $275 |
| Illustrator 7.0 | $215 |
| Premier 4.2 | $335 |
| After Effects /Studio Bundle | $335/1180 |
| Framemaker 5 | $335 |

## Macromedia

| | |
|---|---|
| Freehand 7.0/VectorEffects | $215 |
| Freehand Graphic Studio | $299 |
| SoundEdit 16 Deck II | $275 |
| Fractal Design Painter 4.0 | $235 |

Call for Corel, Claris, Caere, Metatools, Strata, Specular, Symantec, and Denaba products.

*SUPER SOFTWARE*
800-258-0297(FAX) 800-260-3988
Call 9AM to 6PM PST Since 1983

# Bar Code Headquarters

- Portable Batch Readers
- Cordless Interactive RF Bar Code Readers
- ADB Bar Code Readers
- Wand, Laser, CCD, Magstripe or Slot Badge
- PostScript Bar Code Fonts

0 12345 67890 5

- 30 Day $ Back Guarantee
- Free Shipping in USA
- Toll Free Tech Support

WORTHINGTON DATA SOLUTIONS

1-800-345-4220
Or Call 408-458-9938
Website: www.barcodehq.com

See us at Fall Comdex Booth #H1242

# POINT OF SALE INVENTORY CONTROL

- Retail
- Rentals
- Service
- Manufacturing
- Multi Location

Bar Code/Magnetic Stripe Readers
Receipt Printers • Cash Drawers
Credit Card Auth.& Deposit Software
Download Demos and Interactive Catalog at our Web Site: http://www.posdirect.com
call, fax, or e-mail for a FREE CATALOG
(800) 622-7670 sales@posdirect.com
(618) 985-8237 TEL • (618) 985-3014 FAX
Dealer Inquiries Welcome
30 day MBG
VISA MasterCard P.O.S. DIRECT

CIRCLE 442 ON READER SERVICE CARD

# Macworld SHOPPER

Print Utility • Bar Code **Business Operations**
Discount Software • Music **Education/Entertainment**


# BAR CODE SOLUTIONS

• LABELING SOFTWARE
FREE EXPERT CONSULTATION

• BAR CODE FONTS
FREE LIFETIME TECHNICAL SUPPORT

• SCANNERS/LASERS
MONEY-BACK GUARANTEE

• GRAPHIC UTILITIES
UPC/EAN, CODE 39, ITF, POSTNET, 2-D

International Bar Code Expertise
300,000 Customers Worldwide

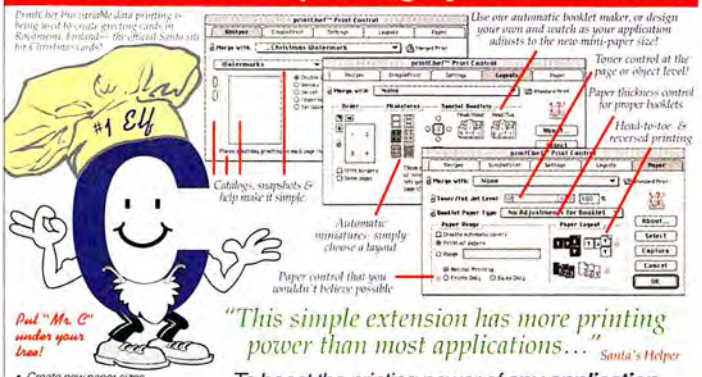
★★★★½
"This is the best product of it's kind, and it's reasonably priced too."
– MacUser on PrintBar For Macintosh

Bear Rock TECHNOLOGIES
800·232·7625
916·672·0244 FAX: 916·672·1103

Visit Our Website At:
www.bearrock.com

CIRCLE 443 ON READER SERVICE CARD

## Now...the official printing system of Santa!




Put "Mr. C" under your tree!

"This simple extension has more printing power than most applications..." Santa's Helper

To boost the printing power of **any application**, call **(800) 648-6840** or try our demo at **www.mindgate.com**

- Create new paper sizes
- Control toner & ink-jet level
- Watermarks (at many levels)
- "Variable data" printing
- "Variable image" printing
- Preview printing with zoom
- Booklets with built-in "page creep"
- Accumulate print jobs into one fax, booklet, or print
- Flash print to PostScript 10x faster
- Dump a database through a form
- Fill in forms with "Fill in the Blank"™
- Create your own multi-ups
- Make full or partial label layouts
- Two cover pages
- Front-to-back & range printing
- PS Level 2 forms caching
- Stamp different images for each customer, all from one print recipe
- Print logging with security & reports
- Create any bar code from one font
- Serialization
- Sign letters & faxes electronically
- Imports EPS & PICT images
- Control print resolution
- 38 Print-time text commands & 100 database commands
- You can move, rotate, colorize, clip, scale, & duplicate each object & page to your design...

**printChef**®

Introductory priced at **$45**

...so that everyone can make their printer sizzle right now!

See why adding the "printChef" button to your print dialog is not printing magic... it's printing science!

**60-day money-back guarantee**

*Installs in English, French, German, and Spanish*

printChef is a print extension that sits between any application & any printer driver... It uses Print Recipes that you design to control any application's output...

System 7+ required! For 680x0 & any PowerMac. Works with ANY printer & ANY application. printChef's miracles require only 32K of memory. QuickDraw GX is NOT required!

*MindGate, printChef & their logos are registered trademarks. Fill-in-the-Blank is a trademark, & "It's not printing magic... it's printing science!" is a salesmark of MindGate Technologies.*

List Price: Base unit $95 Net. $15-$25/unit
Worldwide: (931) 937-6800
Fax Orders: (931) 937-6801

MindGate® Technologies, Inc.
164 Oliver Smith Road
Flintville, TN 37335-5335

Order Direct
VISA
or thru MacWAREHOUSE
800-255-6227

CIRCLE 440 ON READER SERVICE CARD

www.macworld.com/buyers/shframed.htm

Mac shopper

Want bargains online?
Bookmark the Mac Shopper at:

Macworld Online

Contact Macworld on how to advertise.
(800) 888-8622

# MUSIC for the MAC

We sell the full range of music products for the Mac. Hard Disk Recording Specialists.

Best prices & customer support in the business!

MacBEAT®
1314 Rufina Cr. Ste. #A4
Santa Fe, NM. 87505

www.macbeat.com
FREE CATALOG
☎ 505-473-3434
Fax 505-473-4647
1-800-MAC-BEAT

"A Macworld never goes by without me checking to compare prices. I always look to see if what I need is there."
–Owner, Computer Consultants

*Source: Turley Communications Measurement report, January 1995*

Macworld SHOPPER

# STUDENTS, TEACHERS, SCHOOLS SAVE UP TO 80%

ELECTRONIC Image EDU·SOFT

199.00 Macromedia FreeHand 7 Graphics Studio

Macromedia FreeHand 7 ..149

## We'll Beat ANY Advertised Price!!!

Adobe, Microsoft, Lotus, & Borland products available.

| | | |
|---|---|---|
| 3D Web Workshop..... 99 | FileMaker Pro 4.0..... 119 | MiniCAD 7..... 319 |
| 4th Dimension 6.0..... 249 | Final Draft 4.1..... 119 | NetObjects Fusion 2.0 .. 149 |
| Authorware 4.0..... 749 | Finale 97..... 249 | Nisus Writer 5.0.1..... 85 |
| Canvas 5.0.2..... 169 | Fractal 3D Suite 2.0.... 299 | OmniPage Pro 7.0..... 329 |
| Claris HomePage 2.0.... 59 | Fractal Dabbler 2.0..... 39 | PageTools 2.0..... 69 |
| Claris Works 5.0..... 79 | Fractal Detailer 1.0..... 129 | Quickeys 3.5.2..... 85 |
| Cliff Notes Studyware.... 39 | Fractal Expression..... 99 | QX-Tools 2.0..... 69 |
| CodeWarrior Pro 1.0 ... 119 | Fractal Painter 5.0..... 209 | Ray Dream Studio 5.0 .. 119 |
| Collage 2.0..... 59 | Fractal Poser 2.0..... 79 | Ray Dream 3D..... 69 |
| Conflict Catcher 4.0..... 59 | Infini-D 4.0..... 329 | Softwindows 95 4.0.... 199 |
| CorelDRAW Ste 6.0.... 139 | Iomega ZIP Drive..... 149 | Strata Media Paint 1.x .. 179 |
| Debabelizer Toolbox.... 229 | Kai's Photosoap..... 49 | Strata Studio Pro 2.1 ... 549 |
| Director 6 w/E-Doc..... 329 | Kai's Power Tools 3.0.... 85 | SuperCard 3.0..... 129 |
| Director MMS 6..... 679 | Kodak DC120 ZOOM... 779 | Total Xaos Bundle..... 129 |
| Director MMS Upgd.... 399 | KPT Bryce 2.0..... 119 | Umax Astra 600S..... 209 |
| Electric Image Brdcast.. 1349 | KPT Vector Effects..... 85 | Wacom ArtPad 4x5.... 129 |
| Encore 4.2..... 249 | LightWave 3D 5.5..... 799 | Wacom ArtZ II 6x8..... 265 |
| EndNote Plus 2.x Stu..... 99 | Logomotion 2.1..... 39 | Wacom ArtZ II 12x12... 399 |
| Epson Stylus 800..... 399 | Mac OS 8.0..... 85 | Web Graphics Suite..... 79 |
| Eye Candy..... 79 | Mathematica..... 149 | WordPerfect 3.5.1..... 39 |

WebSite www.ElectronicImage.com • Fax (510) 798-2464 • FREE Catalog

TOLL FREE 1·888·EDU·SOFT

CIRCLE 447 ON READER SERVICE CARD

# Student - Teacher - School Discounts!

**WE WILL BEAT ANY ADVERTISED PRICE * LATEST VERSION & FULL PACKAGES**

| | |
|---|---|
| 18 Perfect People 1.0 | $199 |
| 3D AcuWorlds Models | $79 |
| 3D Dizzy 1.0 | $69 |
| 3D HotText 1.0 | $99 |
| 3D Words 1.0 | $69 |
| 4th Dimension 6.0 | $249 |
| Adam Comprehensive Student ED | $99 |
| Agfa SnapScan | $279 |
| Alias Sketch! 2.0.2 | $199 |
| Amapi 3.0 | $249 |
| Anubis Utility | $49 |
| ArchiCad 5.0 Student | $129 |
| Astound 3.0 | $99 |
| Astra 600S Scanner PhotoDeluxe | $209 |
| Authorware 4.0 | $749 |
| Authorware Studio 4.0 | $2649 |
| AutoCAD R12 w/Ame | $199 |
| BBEdit 4.5 | $79 |
| Berserk 1.3 | $159 |
| Bitstream Collection | $129 |
| Boris FX Limited 3.0 | $129 |
| Canvas 5.0.2 | $179 |
| ChemOffice Pro 4.0 | $299 |
| Claris Draw 1.0 | $119 |
| Class Action | $65 |
| Classic PIO Partners | CALL |
| ClearVideo 1.2 | $229 |
| Cliff Notes StudyWare Geometry | $25 |
| Coda 1.0 | $249 |
| Coda Finale 97 | $249 |
| ColorDrive 1.5.3 | $89 |
| Conflict Catcher 4.0 | $59 |
| CorelDRAW Suite 6 | $169 |
| Cricket Graph III 1.5.3 | $79 |
| Cubase Audio XT/VST 3.5 | $399 |
| Cubase VST 3.5 | $199 |
| Cyclonist 1.0 | $249 |
| Dabbler 2.0 | $39 |
| DeBabelizer Toolbox 1.6.5 | $229 |
| DeltaGraph 4.0 | $89 |
| DesignWorkshop 1.7 | $199 |
| Detailer 1.0 | $129 |
| Digital Box Office | $249 |
| Director 6 Studio | $679 |
| DrawingSlate II 12x12 | $299 |
| EPS Invigorator 1.5 | $249 |
| Encore 4.1.1 | $249 |
| EndNote Plus 2.2 w/EndLink | $165 |
| Epson Expression 636-Executive | $769 |
| Epson Stylus 600 InkJet Printer | $289 |
| Epson Stylus Color 3000 InkJet Print | $1929 |
| Epson Stylus Photo InkJet Printer | $475 |
| Eudora Pro 3.1 | $49 |
| Expression 1.0 | $99 |
| FastTrack Schedule 5.0 | $139 |
| FileGuard 3.0 | $119 |
| FileMaker Pro 4.0 | $139 |
| Final Draft 4.1 | $149 |
| Flash 2.0 | $149 |
| Flo' 2.6.3 | $69 |
| Form Z 2.92 | CALL |
| FreeHand 7.0 | $149 |
| Globalink 4In1 Power Translator 6.0 | $129 |
| Hercules Animated StoryBook | $39 |
| Hollywood FX 3.0 | $359 |
| HomePage 2.0 | $69 |
| HyperCard 2.3.5 | $89 |
| HyperStudio 3.1 | $119 |
| Illuminaire Paint | $749 |
| Illuminaire Studio | $1299 |
| ImageAXS | $59 |
| Inspiration 5.0 | $79 |
| Intellihance 3.0 | $69 |
| Iomega Jaz 1GB Ext Drive Ma/PC | $389 |
| Japanese Language Kit 1.2 | $129 |
| Java Beat | $75 |
| Jmp 3.2 | $329 |
| Judson-Rosebush Wildside Bundle 5 | $149 |
| KPT Bryce 2.0 Kit | $49 |
| KPT Final Effects 3.0 | $399 |
| KPT Final Effects AP 1.0 | $109 |
| Kai's Photo Soap 1.0 | $39 |
| Kai's Power Goo 1.0 | $39 |
| Kai's Power Tools 3.0.2 | $85 |
| KaleidaGraph 3.0 | $109 |

**Priority Code: 3086**

**Call for FREE Catalog!**
**(800) 831-2295**
Includes Complete Price List & Free Product Info.

- **SAME DAY SHIPPING ON MOST ITEMS.
- **ADOBE, SYMANTEC & MICROSOFT PRODUCTS AVAILABLE TO QUALIFIED STUDENTS, TEACHERS & SCHOOLS.
- **SCHOOL PURCHASE ORDERS WELCOME.
- **NO SURCHARGE ON CREDIT CARDS.
- **IBM & MAC PRODUCTS AVAILABLE.

*Not responsible for typographical errors.
*Prices subject to change.
*The Software Source has the right to refuse any order.

Visit our NEW Web Site!!
http://www.swsonline.com

The SOFTWARE Source

**1-800-831-2295**

1750 Brielle Ave, Unit A-2
Ocean, NJ 07712
PHONE (732) 695-2100
FAX (732) 695-9371
E-MAIL: SFTSWS@AOL.COM

CIRCLE 448 ON READER SERVICE CARD

# Student - Teacher - School Discounts!

**WE WILL BEAT ANY ADVERTISED PRICE * LATEST VERSION & FULL PACKAGES**

**Artist's Dream Bundle**
**Wacom Art Z II 6x8 & Painter 5.0**

**Epson Stylus 800 Color Inkjet**
*High performance 1440x720 dpi Printing*

**Bryce 2**
*3D Terrain Program*

*Hi-Speed Rendering*

**Director 6 E-Doc**
*Director 6 with Online Documentation*

**Eye Candy 3.0.1**
*Photoshop Plug-in that contains several filters*

**Freehand Graphics Studio**
*Includes FreeHand 7, Fontographer, Extreme 3d, and xRES*

**NetObjects Fusion 2**
*Smart Way to Build Web Sites*

**MiniCad 7.0**
*2D/3D Cad Software*

**Fractal 3D Suite**
*Includes Ray Dream Studio, Bryce 2, Poser 2 & Detailer*

**Iomega Zip 100 External Drive**
*Expand your Hard Drive Without Limits!*

**Retrospect 4**
*Backup Software*

**LightWave 3D 5.5**
*Modeling & Animation*

**Call for FREE Catalog!**
**(800) 831-2295**
Includes Complete Price List & Free Product Info.

**SAME DAY SHIPPING ON MOST ITEMS.
**ADOBE, SYMANTEC & MICROSOFT PRODUCTS AVAILABLE TO QUALIFIED STUDENTS, TEACHERS & SCHOOLS.
**SCHOOL PURCHASE ORDERS WELCOME.
**NO SURCHARGE ON CREDIT CARDS.
**IBM & MAC PRODUCTS AVAILABLE.

**Visit our NEW Web Site!!**
**http://www.swsonline.com**

| | |
|---|---|
| Kidpix Studio | $35 |
| Kodak DC50 Digital Camera | $649 |
| Life Forms 2.1 | $199 |
| Live Picture 2.6 | $199 |
| Logic 2.6 | $229 |
| M.Y.O.B 7.0 | $49 |
| M.Y.O.B 7.0 w/Payroll | $90 |
| Mac Academy Tutorial Video | $35 |
| MacLink+ Translator Pro 9.7 | $95 |
| Mad Scientist Collect | $79 |
| MagicMask | $79 |
| Mask Pro 1.0 | $199 |
| MathType 3.5 | $99 |
| Mathematica 3.0 Student | $149 |
| Matlab 5.0 Student | $99 |
| Mavis Teaches Typing 5.0 | $45 |
| Media Cleaner Pro 2.0 | $249 |
| MediaPaint 1.2 | $179 |
| MeshPaint 3D 1.6 | $315 |
| Mosaic 1.5 | $249 |
| Movie Magic Scheduling | $329 |
| MovieFlo' 2.0.4 | $369 |
| MovieWorks Interactive 4.0 | $79 |
| Myrmidon 1.2 | $35 |
| Netscape Communicator 4.0.1 | $29 |
| Netscape Communicator Pro 4.0.1 | $49 |
| Nisus Writer 5.0.1 | $85 |
| Now Bundle 3.6.5 | $69 |
| Now Utilities 6.7 | $55 |
| ObjectDancer 1.0 | $199 |
| OmniForm 2.0 | $129 |
| OmniPage Pro 7.0 | $329 |
| Orbit Trackball | $69 |
| Overture 2.0.2 | $249 |
| Paint Alchemy 2.0 | $79 |
| Painter 5.0 | $219 |
| Photo/Graphic Edges | CALL |
| PhotoVista | $79 |
| Pixar Showplace | $139 |
| Portfolio 3.0 | $69 |
| Poser 2.0 | $79 |
| PosterWorks 4.0 | $249 |
| Presenter 3D 3.6 | $995 |
| Printshop Dlx Ensemble Mac CD | $60 |
| Quickeys 3.5.2 | $85 |
| Ram Doubler 2.0 | $55 |
| Ray Dream Studio 5.0 | $129 |
| RubberBall Faces | $199 |
| SPSS 6.1 Student | $99 |
| Screen Caffeine Pro | $75 |
| Sculpt 3D 4.2 | $219 |
| SoftWindows 95 4.0 | $199 |
| SoundEdit 16+ Deck II | $249 |
| Speed Doubler 8 | $55 |
| Spell Catcher 1.5 | $49 |
| Sportster 56K Ext | $209 |
| Spring Cleaning 1.0.1 | $49 |
| Squizz! 2.0 | $69 |
| StoryBoard Artist 1.5 | $329 |
| Studio Effects 1.0 | $399 |
| Studio VisionPro 3.5.4 | CALL |
| StudioPro 2.1 | $549 |
| Stuffit Deluxe 4.0 | $69 |
| Stylist 1.0 | $85 |
| SuperCard 3.0 | $129 |
| SupraExpress 56K Ext | $189 |
| Terra Forma Regional 1,2 OR 3 | $129 |
| Terrazzo 2.0 w/TubeTime | $79 |
| Textissimo 1.0 | $69 |
| The Teacher's Tool Kit | $69 |
| Total Xaos | $129 |
| Trackman Marble | $85 |
| Tree EIAS Storm w/Tree Painter | $449 |
| TypeCaster | $79 |
| TypeShop Pro | $129 |
| Typo/Graphic Edges 3.0 | CALL |
| Video/Graphic Edges | CALL |
| Virtual PC | $149 |
| Wacom Art Z II 12x12 Ser Tablet | $399 |
| Wacom Art Z II 6x8 Adb Tablet | $285 |
| Wacom ArtPad II 4x5 Adb Tablet | $129 |
| Walkthrough Pro 2.6 | $229 |
| WebPage Graphics | $69 |
| WebPainter 2.0 | CALL |
| WildRiverSSK 1.0 | $85 |
| WordPerfect 3.5.1 | $69 |

**Priority Code: 3086**

The SOFTWARE Source

**1-800-831-2295**

1750 Brielle Ave, Unit A-2
Ocean, NJ 07712
PHONE (732) 695-2100
FAX (732) 695-9371
E-MAIL: SFTSWS@AOL.COM

CIRCLE 449 ON READER SERVICE CARD

# Secure Only The Computers You Want To Keep!

Secure-It, Inc. is a leader in computer security, having the highest quality and the largest selection of products to suit your needs. Our computer security staff is ready to assist you in solving your problem to minimize your risk. They can suggest an existing package, or assemble a special package just for you.

**Secure your:**
- Notebooks
- Desktops
- Peripherals
- Internal Boards
- Disk Drives
- CD Roms
- Etc.

**For a FREE consultation, or a FREE catalog...**
**Call Today!**
**800-451-7592 Dept. SE**

**Secure-It**

18 Maple Court, East Longmeadow, MA 01028, USA Phone: 413-525-7039 Fax: 413-525-8807
Dealer inquiries invited • Mastercard accepted

CIRCLE 409 ON READER SERVICE CARD

for Mac & PC

# We really make sense

Complete lines of networking products: PCI, NuBus, PCMCIA/ Card bus & PDS network cards; Transcievers, Hubs, LAN Switches, Cable testers. Internet devices: Internet Sharing Hubs, ISDN Modems & Routers. Peripherals: SCSI Terminators & Game Controllers.

**Distributor & reseller inquires welcome**

**Visit us at Macworld Expo-SF, North Hall booth#4456**

*Please call or email for FREE product catalog*

Macsense®

**Just Macsense Technology Inc.**
Tel:1-800-642-8860 Fax:408-744-1060
1290 Reamwood Ave.#B Sunnyvale, CA 94089
www.macsensetech.com

# NEW YEARS SPECIAL!

Finally - A gift for you!

**MITSUI GOLD** Recordable CD-Rom media.

The best CD-R's in the world, backed by the only lifetime warranty in the business and isn't it time to buy a gift for *yourself* anyway?

*NEW YEARS SPECIALS*
- •10-disc sample pack $24.99
- •100-disc case $199.99

CALL AMC *TODAY* before these specials vanish as fast as 1997 did!

**888-558-3186**
or fax: (425) 861-8391

# EXPERIENCE THE AMC QUALITY DIFFERENCE.

AMC. QUALITY. INTEGRITY. EXPERIENCE.

AFFEX HARDCOPY COLOR INK JET PRINTER

ALL NEW!

AFFEX

Call today for: **Best Price!**

The CD-4004 offers all the features of large scale CD-R duplicators at a fraction of the price.

MediaFORM CD-ROM DUPLICATOR

Prices start at: $2649.

Prices start at: $499.

PLASMON CDR480

The cost effective CD printer. Print's CD's, Jewelcase liners and other media in brilliant 1440dpi color.

The CDR480 is a quad speed (4x) recorder + an 8x CD-ROM reader that is compatible with all standard CD recording formats.

Prices start at: $799.

AMC 2-HI JAZ/CD-R COMBO

The ultimate CD-ROM Mastering solution. Custom-built to your specifications with 2x6 or 4x6 CD-R drives, Jaz and/or A/V Hard Drives. All kits include Adaptec Toast Mastering software.

AMC Experience the Difference.
ADVANCED MULTIMEDIA CONCEPTS
P.O. Box 3456 Redmond, Washington 98073-3456 • 888-616-4589 www.mwm.amc-direct.com

Ad Code MW21C

CIRCLE 408 ON READER SERVICE CARD

Finally! Windows 95 and Macs Share Files and Printers Both Ways

Workgroups and small offices can now operate as efficiently as an enterprise with **PC MACLAN for Windows 95**. Low cost, plug and play installation, Network Neighborhood and long file name support, are just a few of the features that make sharing files, volumes and printers between Macs and PCs a snap.

*"For peer-to-peer networking . . . PC MACLAN 6.0 is the only choice."*
— Macworld - Nov. '96

Create your own network or complement almost any pre-existing LAN. Sharing information between Windows 95 and Macintosh users is as easy as working off your local hard drive. Print jobs go to the printer of your choice regardless of its location on the network.

For ordering or information:
800-862-2526
e-mail: sales@miramarsys.com
Web: www.miramarsys.com

Please visit us at these upcoming shows:
Seybold Seminars Oct. 1-3 — Booth # 2428
CUE Conference Oct. 16-18 — Booth # 902

CIRCLE 446 ON READER SERVICE CARD

Warehouse Clearance!
All Products in working condition

Mac S·A·L·E INTERNATIONAL

Take 15%-45% Off listed prices
- Cash sales only -

Power Computing 120
PPC 601 @ 120 MHz
3 x 7" NuBus Slots
Built-in Video & Ethernet
Kybd., Mouse, Software Pkg.
From ► $399 ◄

Mac SE & Mac Plus
★AS-IS, good working condition.
Keyboard and mouse addtional, Ram & Hard Drive Additional.
(May contain cosmetic defects)
From ► $49 ◄

BIG Discounts-Year End Clearance
[ All Products sold in ★'AS-IS' condition.]

| | | | | | |
|---|---|---|---|---|---|
| Mac II (CPU ONLY) | From | $49 | Powerbook 140 | From | $299 |
| Mac IICX | From | $149 | Powerbook 170 | From | $399 |
| Mac LC | From | $139 | HP Scanners | From | $99 |
| Mac IISI | From | $199 | QMS Laser Printers | From | $199 |
| Quadra 605 | From | $329 | QMS Ram Upgrades | From | $29 |
| Centris 610 | From | $399 | PowerMac AV Card | | $179 |
| Quadra 630 | From | $399 | Power Computing Video Cards | | $79 |
| Centris 650 | From | $399 | Powerbook Batt Recharger Base | | $29 |
| Quadra 650 | From | $449 | Extended Keyboards | | $39 |
| Quadra 660AV | From | $499 | Apple 1.44mb Floppy Disks | | $5 |
| Quadra 700 | From | $449 | Apple 8 • 24GC Video Cards | | $149 |
| PB Duo 270c | From | $599 | Powerbook Modems 2400 baud | | $25 |
| WGS 80 | From | $599 | Comm Slot Modems | | $10 |
| WGS 95 | From | $999 | Nubus Ethernet Cards | | $25 |
| Apple 13" RGB | | $199 | SE or SE/30 Ethernet Cards | | $25 |
| Apple 14" Color Display | | $199 | Pers. LaserWriter SC/NT→ NTR Upgrade | | $59 |
| Apple 14" Color Plus | | $199 | Ethernet Transceivers | | $39 |
| Apple 14" /w Touch Screen | | $229 | Microsoft Works | | $10 |
| Apple 15" MultiScan | | $299 | Microsoft Word Upgrade | | $15 |
| Apple 16" Color Display | | $399 | Click Art CD | | $10 |
| Apple 1710AV Display | | $599 | Video Cards | From | $49 |
| LaserWriter 300 | | $229 | Plastic CPU Cases | From | $15 |
| LaserWriter 310 | | $299 | Software Bundles | | $10 |
| LaserWriter IIf Upgrade | | $299 | Large Selection of Parts | | CLOSE-OUT |
| LaserWriter Engines | | $199 | | | |

•Call for one of a kind items•

Limited Time & Quantity /Prices and stock subject to change/ No Refunds /Dealers welcome
★'As is' products are working; may be repaired /replaced within 14 days of purchase only, at Mgmt. discretion.

1150 W. Alameda Dr., Ste. #1
Tempe, AZ 85282
1-800-729-7031
FAX: 602-858-0811
www.macsaleint.com

CIRCLE 425 ON READER SERVICE CARD

CD-R
$1.99
100 Pc. Minimum w/jewel Case

SONY

4x/6x CD Recordable Internal
$449

jaz $82.95

MEDIA SUPPLY
www.mediasupply.com
800-944-4237
610-458-9100 • Fax: 610-458-9464

CIRCLE 445 ON READER SERVICE CARD

COMPUTER REVELATIONS

NEW & USED BOUGHT & SOLD
USED LASERWRITER IINT $199

| | |
|---|---|
| **POWERMAC** | |
| 7300/180 | $1899 |
| 7300/200 | $2299 |
| 8600/200/300 | CALL |
| 9600/200/300/350 | CALL |
| 7200/7600/8500/9500/ | CALL |
| **PRINTERS** | |
| LWRITER 12/640 | CALL |
| LWRITER 4/600 | $889 |
| HP 6MP | CALL |
| HP 1600 C/PS | CALL |
| HP 4MV | $2699 |
| STYLEWRITER 1500/2500 | CALL |
| **POWERBOOK** | |
| 3400 | CALL |
| 1400 | $2299 |
| 1400C/117 | CALL |
| 1400C/133 | CALL |
| **UMAX / SUPERMAC** | |
| S90L | CALL |
| S900D | CALL |
| **SCANNERS** | |
| VISTA/S6E SOHO | $279 |
| POWERLOOK II | $1829 |
| EXPRESSION 636 | $1389 |
| AFGA SNAPSCAN | $329 |
| AFGA ARCUS II | $1589 |
| **MONITORS** | |
| APPLE 1705 | $695 |
| CPD200SX | $689 |
| PRECISION. 21"SR | $3299 |
| CPD 100SX | $379 |

ALL APPLE PARTS & ACCESSORIES IN STOCK
Leasing / Rentals / Supplies
Service available in NYC area
1 800 275-9924
in NY 516 737-0800
FAX 516 737-0923
331E DANTE COURT HOLBROOK NY 11741

CIRCLE 411 ON READER SERVICE CARD

Want bargains online?
Bookmark the Mac Shopper at:
Macworld Online
www.macworld.com/buyers/shframed.htm
Advertise at (800) 888-8622

Mac POWER
Sales & Service, Inc.
BUY • SELL • TRADE
UPGRADE • REPAIR
New • Used • Refurbished

- Powrbooks
- PowrMacs
- Performas
- Quadras
- MacII-LC
- Monitors
- Printers
- Periph.
- Ram
- Parts

888-275-POWER
San Jose, California, 95123

FAST CASH
www.mactraders.com
For ALL Macs, Memory & Peripherals — Working or not
TOP DOLLAR PAID
Mac Traders (800)990-0995
(310) 576-2466 Mon.-Fri. 9 AM-6 PM Sat.10 AM-4 PM (P.S.T.) Fax: (310) 394-7323
1511 Lincoln Blvd. (bet. Broadway & Colorado), Santa Monica CA. 90401

# MICRO OUTLET

**800 • 801 • 4MAC**
**FAX • 310 • 533 • 0501**
http://www.microoutlet.com
email:sales@microoutlet.com

VISA · MasterCard · American Express · Discover Novus

Free Utilities CD's With Every CPU Order!

## Power Mac 9600/8600 Series

PowerMac 8600/300 32/4GB/24XCD/ZIP
PowerPC $97.00 per Month

| | | |
|---|---|---|
| 9600/300 | 64/4GB/24XCD/L2/Zip | $ 3359 |
| 9600/300 | 64/4GB/24XCD/L2 | 3275 |
| 9600/300 | 0/0/CD | 2749 |
| 9600/233 | 32/4GB/12XCD/L2/VC | 2919 |
| 9600/233 | 32/0GB/12XCD/KEY | 2429 |
| 8600/300 | 32/4GB/24XCD/L2/Zip | 2819 |
| 8600/300 | 32/4GB/24XCD/L2 | 2735 |
| 8600/250 | 32/4GB/24XCD/L2/Zip | 2399 |
| 8600/200 | 32/2GB/12XCD/L2/Zip | 2149 |

## Power Mac 4400/7300 Series

PowerMac 6500/300 64/6GB/CD/ZIP/MOD
PowerPC $79.00 per Month

| | | |
|---|---|---|
| 4400/200 | 32/2GB/12XCD/33.6/MS | $ 1499 |
| 4400/200 | 16/2GB/CD/166DOS/SB | 2279 |
| 7300/200 | 32/2GB/12XCD/L2 | 1949 |
| 7300/180 | 16/2GB/12XCD/L2/Dos | 2775 |
| 7300/180 | 16/2GB/12XCD/L2 | 1799 |
| 6500/300 | 64/4GB/CD/ZIP/33.6/Home | 2299 |
| 6500/275 | 48/6GB/CD/Sm Business | 2579 |
| 6500/250 | 32/4GB/CD/ZIP/56K/Home | 1879 |
| 6500/225 | 32/3GB/CD/ZIP/33.6/HU | 1499 |

## Powerbooks

PowerBook 3400C/240 16/2GB/6XCD
PowerPC $139.00 per Month

| | | |
|---|---|---|
| 3400C/240 | 16/3GB/12XCD/33.6 | $ 4049 |
| 3400C/200 | 16/2GB/6XCD/33.6 | 3170 |
| 3400C/200 | 16/2GB/12XCD/33.6 | 3399 |
| 3400C/180 | 16/1.3GB/6XCD/33.6 | 2799 |
| 2400C/180 | 16/1.3GB/Floopy/OS8 | 3125 |
| 1400C/166 | 16/1GB/6XCD | 2499 |
| 1400C/133 | 16/1GB/8XCD | 2394 |
| 1400CS/133 | 16/1.3GB/8XCD | 1899 |

## Servers

WorkGroup 9650/350 64/2X4GB/CD/AS/Enet
PowerPC $226.00 per Month

**Workgroup Servers**

| | | |
|---|---|---|
| 7350/180 | 48/4GB/12XCD/AShare | $ 2649 |
| 9650/233 | 64/4GB/CD/Internet | 4849 |
| 9650/233 | 64/2X4GB/12XCD | 5128 |
| 9650/233 | 64/4GB/CD/DAT/AShare | 5875 |

**Network Servers**

| | | |
|---|---|---|
| 500/132 | 32/1GB/CD | $ 6725 |
| 700/150 | 48/4GB/CD/DAT/UNIX * | 9248 |
| 700/150 | 32/1GB/CD/UNIX * | 7365 |
| * = | Requires AIX | 1289 |

## Scanners

La Cie SilverScan IV Office $899.00

| | | |
|---|---|---|
| AGFA | Arcus II Bundle | $ 1525 |
| AGFA | SnapScan 600 | 379 |
| AGFA | SnapScan 310 | 225 |
| Epson | Express. 636 Artist | 619 |
| Epson | Express. 636 Executive | 735 |
| Epson | Express. 636 Profess. | 1249 |
| H.P. | 5P Mac 600 dpi LE Photo | 299 |
| La Cie | SilverScan IV Office | 899 |
| Linotype | Linocolor Jade 600 dpi | 479 |
| Microtek | Scanmaker E3 | 149 |
| Microtek | Scanmaker III w/Photo | 1325 |
| Umax | Astra 600S 300 dpi | 179 |
| Umax | Astra 1200S 600 dpi | 379 |
| Umax | Powerlook II & Trans | 1259 |

## Monitors

Apple Multiscan 750AV 17" $899.00

| | | |
|---|---|---|
| Apple | Multiscan 15" AV | $ 375 |
| Apple | Applevision 750 | 799 |
| Apple | Applevision 750 AV | 899 |
| Apple | Multiscan 850AV 20" | 1825 |
| Hitachi | Superscan MC20 | 1325 |
| Iiyama | VisionMaster Pro 21 | 1469 |
| La Cie | Electron 21" | 1479 |
| Mitsubishi | Diamond Pro 91txm | 1429 |
| NEC | Multisync M700 | 740 |
| Radius | Pressview 21SR | 3069 |
| Sony | Multiscan 200SF | 659 |
| Sony | Multiscan 200SX | 599 |
| Viewsonic | Optiquest V773 | 499 |

## Printers

Apple LaserWriter 8500 $2349.00

| | | |
|---|---|---|
| Apple | Stylewriter 4100 | $ 239 |
| Apple | Stylewriter 4500 | 339 |
| Apple | LaserWriter 4/600 | 689 |
| Apple | LaserWriter 12/640 | 1249 |
| Alps | MD1000 Micro Dry Mac/PC | 389 |
| Epson | Stylus Color 600 1440dpi | 279 |
| Epson | Stylus Color 800 1440dpi | 369 |
| Epson | Stylus Photo 6 Color/720dpi | 439 |
| GCC | Elite XL 608 600 DPI | 2259 |
| GCC | Elite XL 808 800 DPI | 2839 |
| GCC | Elite XL 1208 1200 DPI | 5599 |
| HP | LaserJet 6MP | 879 |
| HP | Color LaserJet 5M | 4685 |

## Expansion Cards/Cameras

**Dos Cards**

| | | |
|---|---|---|
| Apple | Pentium 166mhz | $ 799 |
| Apple | Pentium 100mhz | 499 |
| Apple | 586 100mhz | 399 |

**Processor Upgrade Card**

| | | |
|---|---|---|
| Newer Tech. | Max Powr 604/450 Mhz | $ 1099 |
| Newer Tech. | Max Powr 604/225 Mhz | 775 |

**Digital Cameras**

| | | |
|---|---|---|
| AGFA | Ephoto 307 | $ 289 |
| Apple | Quicktake 200 | 489 |
| Epson | Photo PC Mac Version | 249 |
| Epson | 500 w/flash Mac Digital Camera | 399 |
| Fujitsu | DS-7 | call |
| Kodak | DC 120 Digital Camera | 725 |
| Olympus | D320L 1024x768 Resolution | 669 |
| Sony | DSC-F1 w/Flash 4mb Color LCD | 589 |

## Removeable Hard Drives

| | | |
|---|---|---|
| Iomega | Zip+ 100MB & Cartridge Ext. | $ 199 |
| Iomega | Zip 100MB & Cartridge Int. | 168 |
| Iomega | Jaz 1GB Retail & Cart. Int. | 289 |
| Iomega | Jaz 1GB Generic & Cart. Ext. | 359 |
| Iomega | Jaz 1GB Retail & Cart. Ext. | 399 |
| Iomega | Jaz 1GB Retail & 4 Cart. Ext. | 599 |
| Syquest | EZ 230 MB & Cartridge | 169 |
| Syquest | Syjet 1.5GB & Cartridge Int. | 329 |
| Syquest | Syjet 1.5GB & Cartridge Ext. | 429 |
| Syquest | Syjet 1.5GB & Cart. House Ext. | 379 |
| Fujitsu | 640 MB Dynamo Int. | 389 |
| Fujitsu | 640 MB Dynamo Ext. | 449 |
| Olympus | 230 MB PowerMo Ext. | 349 |
| Olympus | 2.6 GB PowerMo Ext. | 1699 |
| Pinn. Micro | 4.6 GB Apex Ext. | 1250 |
| VST | 230MB Opt. Dr. PB 3400 | 435 |
| VST | 230MB Opt. Dr. PB 1400 | 399 |
| VST | ZIP DRIVE Exp Bay PB 1400 | 315 |

## Peripherals

**Cache Cards**

| | | |
|---|---|---|
| 256K | L2 Dimm 6400/4400 Series | $ 110 |
| 512K | L2 Dimm 6400/4400 Series | 155 |
| 256K | L2 Dimm, 7200-8500 Series | 39 |
| 512K | L2 Dimm, 7200-8500 Series | 139 |

**Removable Cartridges**

| | | |
|---|---|---|
| Nomai | 200MB or 270MB | $ 25 |
| Verbatim | 200MB or 270MB | 25 |
| Verbatim | 200MB or 270MB | 56/40 |
| Syquest EZ | 135MB / 230MB | 19/25 |
| Iomega | Zip 100MB/10 Pack | 16/114 |
| Iomega | JAZ 1GB Cart/5 Pack | 83/398 |

**Drawing Tablets**

| | | |
|---|---|---|
| Wacom | ArtZ II 6x8 w/Ultra Pen | $ 280 |
| Wacom | ArtZ II 12x12 w/Ultra Pen | 390 |
| Wacom | ArtZ II 12x18 w/Ultra Pen | 645 |
| Wacom | ArtZ II 18x25 w/Ultra Pen | 1815 |

## Video Expansion

**Video Cards**

| | | |
|---|---|---|
| ATI | Exclaim 3D 4mb V-card | $ 169 |
| ATI | Exclaim 3D 8mb V-card | 249 |
| IMS | Twin Turbo 2mb V-card | 199 |
| IMS | Twin Turbo 4mb V-card | 325 |
| IMS | Twin Turbo 8mb V-card | 525 |
| Matrox | Millenium 4mb V-card | 236 |
| Matrox | Millenium 8mb V-card | 345 |
| Number 9 | Imagine 128 8mb V-card | 699 |
| Radius | Thunder 30/1600 | 475 |
| Radius | Thunder 30/1920 | 619 |
| Radius | Videovision V2.0 | 2249 |
| TrueVision | Targa 1000 w/Premiere | 1599 |
| TrueVision | Targa 2000 | 2939 |
| TrueVision | Targa 2000 Pro | 3289 |

**VRam**

| | | |
|---|---|---|
| 1MB | 7300,8600,9500,9600 Series | $ 29 |

## Keyboards/Modems

**Keyboards**

| | | |
|---|---|---|
| Apple | Design Keyboard | $ 55 |
| Apple | Extended Keyboard II | 79 |
| Generic | Extended Keyboard | 29 |

**Modems**

| | | |
|---|---|---|
| Farallon | Netopia (ISDN) | $ 329 |
| Global Village | Teleport 56K Fax v.34 X2 | 159 |
| Global Village | Teleport 56K Fax v.34 K2 | 159 |
| Global Village | PowerPort 56K PC Card | 259 |
| Global Village | PowerPort Plat 28.8 PC Card | 219 |
| Supra | Express Modem 33.6 | 90 |
| Supra | ExpressFax Modem 56E V.34 | 129 |
| Supra | Express 56E Speakerphone | 139 |
| U.S. Robotics | Sportster 56K V.34 | 129 |
| U.S. Robotics | Sportster 56K V.34 | 129 |
| Zoom | 33.6 Int. 14.4 Fax PC Card | 155 |

## Hard Drives

Quantum Stratus 4.3 GB $359.00

| DRIVE | INT. | EXT. |
|---|---|---|
| Apple 2.1 GB | $ 199 | $ 259 |
| Quantum Stratus 2.1 GB | 239 | 299 |
| Quantum Stratus 3.2 GB | 317 | 372 |
| Quantum Stratus 4.3 GB | 359 | 419 |
| Quantum Stratus 6.4 GB | 489 | 549 |
| Seagate Barracuda 4 2.1 GB | 451 | 511 |
| Quantum Atlas II 4.5 GB N | 599 | 659 |
| Quantum Atlas II 4.5 GB W | 599 | 699 |
| Seagate Barracuda 4 4.5 GB N | 650 | 710 |
| Seagate Barracuda 4 4.5 GB W | 654 | 714 |
| Seagate St34501N Cheetah 4.5GB | 719 | 819 |
| Seagate St34501W Cheetah 4.5GB | 757 | 857 |
| Quantum Atlas II 9.0 GB N | 999 | 1059 |
| Quantum Atlas II 9.0 GB W | 999 | 1099 |
| Seagate Barracuda 9.0 GB N | 919 | 979 |
| Seagate Barracuda 9.0 GB W | 987 | 1087 |
| Seagate Elite 23.0 GB N | 2000 | 2100 |
| Seagate Elite 23.0 GB W | 2055 | 2155 |

## Memory

**Memory Sale!**

| | | |
|---|---|---|
| 4MB | 72 Pin Simm | $ 21 |
| 8MB | 72 Pin Simm | 34 |
| 16MB | 72 Pin Simm | 69 |
| 32MB | 72 Pin Simm | 119 |
| 8MB | Powerbook 1400 Module | 87 |
| 16MB | Powerbook 1400 Module | 125 |
| 24MB | Powerbook 1400 Module | 159 |
| 32MB | Powerbook 1400 Module | 200 |
| 16MB | Powerbook 2400c Module | 79 |
| 24MB | Powerbook 2400c Module | 159 |
| 32MB | Powerbook 2400c Module | 329 |
| 16MB | Powerbook 3400c Module | 133 |
| 24MB | Powerbook 3400c Module | 169 |
| 32MB | Powerbook 3400c Module | 179 |
| 64MB | Powerbook 3400c Module | 419 |
| 128MB | Powerbook 3400c Module | 799 |
| 8MB | 168 Pin Dimm 60NS 5Volts | 44 |
| 16MB | 168 Pin Dimm 60NS 5Volts | 79 |
| 32MB | 168 Pin Dimm 60NS 5Volts | 129 |
| 64MB | 168 Pin Dimm 60NS 5Volts | 219 |
| 8MB | 168 Pin Dimm 60NS 3Volts | 69 |
| 16MB | 168 Pin Dimm 60NS 3Volts | 84 |
| 32MB | 168 Pin Dimm 60NS 3Volts | 139 |
| 64MB | 168 Pin Dimm 60NS 3Volts | 245 |

## Leasing Specialists

- Fast Approval
- Very Low Yield Rates
- Three Buyout Options
- Tax Deductible
- Business or Personal Leasing
- Ask for the Leasing Department

BankVest

8600/300 MHz
• 32MB RAM /Zip
• 4GB HD, 24 X CD
• Apple 750AV Mon.
• Keyboard

$128.00 Per Month, For 36 Months
PowerPC
3 Year Extended Warranty Available!

## Lease Specials

| Model | Configuration | Buy | Lease |
|---|---|---|---|
| 9600/300 | 64/4GB/CD/Zip | $ 3359 | $ 115 |
| 8600/300 | 32/4GB/CD/Zip | 2819 | 97 |
| 8600/250 | 32/4GB/CD/Zip | 2399 | 82 |
| 8600/200 | 32/2GB/CD/Zip | 2149 | 74 |
| 7300/180 | 16/2GB/CD/Dos | 2775 | 95 |
| 3400C/240 | 16/3GB/CD/33.6 | 4049 | 139 |
| 3400C/200 | 16/2GB/CD/33.6 | 3259 | 112 |
| 3400C/180 | 16/1GB/CD/33.6 | 2899 | 99 |
| 2400C/180 | 16/1GB/OS8 | 3125 | 107 |
| 1400C/166 | 16/1GB/6XCD | 2499 | 86 |
| 1400C/133 | 16/1GB/8XCD | 2395 | 82 |

3400C 200 MHz
• 16MB RAM
• 2 GB HD
• 12 X CD
• 33.6 Modem

PowerPC
$112.00 Per Month, For 36 Months

19800 Hawthorne Boulevard #258 Torrance, CA • 90503 Phone: 310-533-0496 Fax: 310-533-0501
Business Hours: Monday-Friday 7:00 AM to 7:00 PM PST Saturday 10:00 AM to 2:00 PM PST

Due to publication time, the advertising prices may vary. All prices includes cash discounts. Not responsible for typographical errors. Shipping and service fees are non-refundable. No sales tax outside of CA. All returns subject to 15% restocking charge. All returns must have an authorization number (R.M.A.) Graphics shown do not necessarily represent actual product.

CIRCLE 433 ON READER SERVICE CARD

| CD Recorders | int. | ext. |
|---|---|---|
| AVD 4X/6X Yamaha | $499 | $549 |
| AVD 4X/4X Teac | $449 | $499 |
| AVD 2X/6X Sony | $349 | $399 |
| AVD 2X/6X ReWriteable | $479 | $529 |

| JAZ/CD-R Duo | ext. |
|---|---|
| JAZ 1GB & 4X/6X Yamaha | $949 |
| JAZ 1GB & 4X/4X Teac | $899 |
| JAZ 1GB & 2X/6X Sony | $749 |
| JAZ 1GB & 2X/6X ReWriteable | $949 |
| Fast Audio Capture & CD Copy | |
| 4X Write/6X Read/12X Read | $849 |
| 4X Write/6X Read/20X Read | $899 |

| SYJET/CD-R Duo new | ext. |
|---|---|
| SYJET 1.5GB & 4X/6X Yamaha | $949 |
| SYJET 1.5GB & 4X/4X Teac | $899 |
| SYJET 1.5GB & 2X/6X Sony | $749 |
| SYJET 1.5GB & 2X/6X ReWriteable | $949 |

| OTHER | int. | ext. |
|---|---|---|
| 12X Read - Plextor CDROM | $239 | $299 |
| 20X Read - Plextor CDROM | $269 | $349 |
| JAZ 1GB Drive + Cartridge | $299 | $399 |
| SYJET 1.5GB Drive + Cart. | $299 | $399 |

## MEDIA

| | | | |
|---|---|---|---|
| 128MB Optical | $6.99 | SyJet 1.5GB | $89 |
| 230MB Optical | $9.99 | Syquest* 44MB | $29 |
| 590MB Optical | $23.99 | Syquest* 88MB | $34 |
| 640MB Optical | $27.99 | Syquest 135MB | $19.99 |
| 650MB Optical | $27.99 | Syquest* 200MB | $53 |
| 1GB Optical | $89.99 | Syquest 270MB | $55 |
| 1.2GB Optical | $27.99 | ZIP 100MB | $12.99 |
| 1.3GB Optical | $27.99 | JAZ 1GB | $89 |
| 2.3GB Optical | $55.99 | DLT 10/20GB | $39.99 |
| 2.6GB Optical | $55.99 | DLT 15/30GB | $47.99 |
| CD-ReWriteable | $22.99 | DLT 20/40GB | $106.99 |

* = Syquest Compatible

## SOFTWARE

| | |
|---|---|
| CD-DA: Pro Audio Mastering | $359 |
| CD Copy: Copy any data/audio CD | $99 |
| Toast 3.5: #1 CD Writing Software | $99 |
| Toast/CD-Copy/CD-DA: Mega Pack | $449 |
| M-Pack: MPEG Encoding Software | $399 |
| Masterlist CD: Pro Audio CDs | $499 |
| Intech CD ROM Speedtools | $20 |
| PRO Tools: multitrack digital audio | $599 |
| Audiomedia III: PCI Audio I/O Card | $699 |

**ORDER TOLL FREE!** Product Prices and Availability Subject To Change. VISA MasterCard AMERICAN EXPRESS P.O.s

**800.555.5551** Ad Code: BB-101

MEDIASTORE www.mediastore.com

Open Mon - Fri 7 a.m. - 6 p.m. (PST) • international phone 714-974-5551 • FAX 714-279-1690

CIRCLE 432 ON READER SERVICE CARD

**POWERMAC 9600**
300Mhz 604e 64/4GB/24xCD
**$2999**

**POWERBOOK 1400C**
166 Mhz/16/2GB/CD
**$2389**

# iCN
INNOVATIVE COMPUTER & NETWORKING, INC.

**POWERBOOK 3400C**
240 Mhz/16/3GB/CD
**$3599**

**POWERMAC 7300**
200Mhz 604e 32/2GB/12XCD/L2
**$1699**

## GENUINE APPLE 233MHz 604e PROCESSOR UPGRADE
### 7300/7500/7600/8500/9500/9600
Improves overall system performance by 158%.
Integrated floating_point coprocessor, with 32K on_chip cache
**$390**

## POWERMACS

**►9600**
350Mhz 604e/64/4GB/24xCD/KB ..... $4399
300Mhz 604e/64/4GB/24xCD/KB ..... $2999
233Mhz 604e/32/4GB/12xCD/KB ..... $2579
200 Mhz MP604e/32/4GB/12xCD/KB .... $3329
200 Mhz 604e/32/4GB/12xCD/KB ..... $2469

9500
200Mhz 32/2GB/CD* ..... $1979

**►8600**
300Mhz 604e/32/4GB/24XCD/L2 ..... $2599
250Mhz 32/4GB/24XCD/1MB Cache ..... $2179
200Mhz 604e/32/2GB/12XCD/L2 ..... $1999

**►7300**
200 Mhz 604e 32/2GB/12xCD/L2 ..... $1699
180Mhz 604e 32/2GB/12xCD/PC COMPATIBLE $2399
180Mhz 604e 16/2GB/12xCD/L2 Cache ..... $1749

**►6500**
300 Mhz 64/6GB/24XCD/L2/ZIP/56.6 Mod $2999
275Mhz 48/6GB/24XCD/L2/ZIP/56.6 Mod $2799
275Mhz 32/6GB/24XCD/L2/ZIP/56.6 Mod $2499
250Mhz 32/4GB/24XCD/ZIP/56.6 Mod ... $1999
225 Mhz 32/3GB/12XCD/L2/33.6 ..... $1599

**►4400**
200Mhz 32/2GB/CD/L2 Cache/KB ..... $1349

## PERFORMAS

6400 180MHz/16/1.6GB/CD/KB ..... $1099*
6400 200MHz/16/2GB/CD/KB ..... $1299*
6360 160MHz/16/1GB/CD/KB ..... $999*
6200 75MHz/8/1GB/CD/KB ..... $599*

## UPGRADES
WITH ORIGINAL APPLE LOGIC BOARD

PM 8500 LOGIC BOARD UPGRADE
FROM Q800, Q840AV, PM 8100 TO 8500 ..$895
PM 7600 LOGIC BOARD UPGRADE
FROM PM 7200 TO 7600 ..... $689
PM 5300/6300 UPGRADE L.B.(100MHZ)
FROM Q630, PF630, PF 5200 & 6200 $349
Workgroup Server 9150/80 L.B. Upgrade
FROM 950, 900 ..... $599
DUO UPGRADE 200 Series To 2300 ... $599
200MHz MP Processor Upgrade ..... $989

**Prices Subject to Change Without Notice**
All Prices reflect 3% Cash Discount • * Refurbished

## POWERMAC 8600
250Mhz 604e 32/4GB/24xCD/KB
**$2179**

## APPLE VISION 20" 850 DISPLAY
**$1469**

## UMAX

SUPER MAC S900L/225 Mhz 604e/32/2.1GB/8XCD/IMS 8MB $2299
SUPER MAC S900/250 Mhz DP 604e/64/2x2GB/12XCD/ZIP/KYBD .. $6135
SUPER MAC S900/250 Mhz 604e/32/2x2GB/8XCD/ZIP/KYBD $3129
SUPER MAC S900/233 Mhz 604e/32/2GB/8XCD/KYBD ..... $2729
SUPER MAC S900/180DP Mhz 604e/32/2GB/8XCD/KYBD $2695
SUPER MAC J700/180 Mhz 604e/24/2GB/8XCD/KYBD .. $1699
SUPER MAC C600/240 Mhz 603e/24/2GB/8XCD/KYBD/Modem $1389
SUPER MAC C600/180 Mhz 603e/16/1GB/8XCD/KYBD/Modem $1059
UMAX AUTHORIZED SERVICE CENTER

## POWERBOOKS

3400c 240 Mhz/16/3GB/CD ..... $3599
3400c 200 Mhz/16/2GB/CD ..... $2899
3400c 180 Mhz/16/1.3GB/CD ..... $2749
2400c 180 Mhz/16/1.3GB ..... $2890
1400cs 133 Mhz /16/1.3GB/CD .... $1779
1400c 166 Mhz/16/2GB/CD ..... $2389
DUO 2300c 100Mhz/8/750* ..... $1099
Apple Emate 300 ..... $759
PowerBook 100 & 500 Series In Stock

**Duo Upgrade**
200 Series To 2300 Series
**$599**

QuickTake 200 Camera $419
4MBSmartMedia Card For QuickTake 200 $89

FOR CURRENT PRICES VISIT OUR WEB SITE AT:
**http://www.icni.com**

**1.888.505.2211**
Fax:(310) 445-6611 Tel:(310) 445-6600
FAX TOLL FREE FROM JAPAN: 00-31-114211
2045-B S. Barrington Ave. LA, CA 90025

## MONITORS

APPLE VISION 850 ..... $1469
APPLE 20" Multi* ..... $1099
APPLE VISION 750 .... $779
APPLE VISION 750 AV .. $859
APPLE 1705 Multi ..... $489
APPLE 15" AV Multi .... $359
APPLE 15" Multi ..... $319

NEC E500/E700 ..... $379-659
NEC 21" P1150/E1100 .... $1499-1399
SONY 15" 100SX/15"100SF .... $339-369
SONY 17" 200SX/17"200SF .. $609-649
SONY 20" 300SF/ 20"SE2 .. $1379-1869
VIEWSONIC 15" GS/ GA ..... $329-379
VIEWSONIC 17"GA/ PT770 .... $599-689
VIEWSONIC 20" P810/ P815 ..... $1289-1449
VIEWSONIC 20" PT813/ G810 ..... $1429-1249

## PRINTERS

APPLE LaserWriter COLOR 12/660 .... $3990
APPLE LaserWriter 12/640 ..... $1090
APPLE LaserWriter 8500 ..... $CALL
APPLE LW 16/600 ..... $1449
APPLE LW 4/600 ..... $789
APPLE SW Color 2200 ..... $279

APPLE SW 1500 ..... $169*
APPLE SW 1200 ..... $99
APPLE SW Color 4100 ..... $249
APPLE SW Color 4500 ..... $339
APPLE SW Color 6500 ..... $445
EPSON STYLUS 600/800 COLOR ..... $279/$379

## SCANNER

AGFA Arcus II Transp/Full Photoshop. ..... $1499
UMAX Powerlook II Transp/Full Photo. .... $1279
UMAX ASTRA 1200S - Ph.Delux/Full Photoshop. . . $319/$499
UMAX ASTRA 600S / Photo Delux. ..... $189
EPSON Expression 636 Executive/A/P. . . $739/$869/$1289
CALL FOR PRICES ON OTHER MODELS

## APPLE PARTS & ACCESSORIES

APPLE 166MHz Pentium Dos Card .... $729
QuickTake 200 Camera ..... $419
4MBSmartMedia Card For QuickTake 200 .. $89
Original Apple BATTERY For PB 3400 . $169
Original Apple 8xCD-ROM ..... $139

CIRCLE 416 ON READER SERVICE CARD

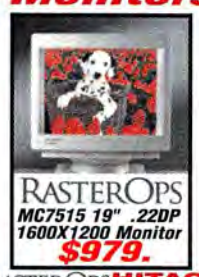
# 800-689-3933

Service (310) 479-0999
Fax (310) 312-9041

# LA computer center

We Beat, We Match, We Deal

## Monitors




RASTEROPS HITACHI 3 year warranty

| | |
|---|---|
| Mc 620 17" .28dp 1152X870 | 499. |
| Mc 6315 17" .22dp 1280X1024 | 649. |
| Mc 7515 19" .22dp 1600X1200 | 979. |
| Mc 801 21" .22dp 1600X1200 | 1449. |
| Mc 801HR 21" .22dp 1600X1280 | 1649. |

### SONY

| | |
|---|---|
| Sony 100SF | 339. |
| Sony 100SX 15" | 319. |
| Sony 200SF | 649. |
| Sony 200SX 17" | 579. |
| Sony 300SF 20" | 1329. |
| Sony 20SE II 20" | 1749. |

- Corporate Accounts Welcome
- Business Leasing Available
- Reseller Inquiries Welcome
- Fortune 1000, University, School, & Government Purchase Orders Accepted
- We Also carry Toshiba, Compaq, IBM notebooks.

## Scanners

| | |
|---|---|
| Agfa Arcus II | 1499. |
| Agfa StudioStar w/ Full Photoshop | 879. |
| Agfa StudioScan IIsi w/LE Photo | 599. |
| Agfa SnapScan 300 | 299. |
| Umax Astra 600S w/Photo Dlx. | 179. |
| Umax Astra 1200S w/Photo Dlx. | 299. |
| UmaxPowerlook II w/ Photo Full | 1199. |
| Umax Powerlook 2000 | 3350. |
| Umax Mirage II SE w/Trans. Adapter | 3699. |
| Microtek Scanmaker V300 | 199. |
| Microtek Scanmaker III Full Photo/Tra. Ada. | 1399. |

## Monitors

### NEC

| | |
|---|---|
| Multisync M700 17" 25mm | 769. |
| Multisync E1100 21" 28mm | 1299. |
| Multisync P750 17" 25mm | 799. |
| Multisync M500 15" 25mm | 399. |
| Multisync P1150 21" 25mm | 1449. |
| Multisync XV17+ 17" 28mm | 699. |
| Multisync XP37 37" 85mm | 7199. |

### radius

| | |
|---|---|
| SuperMac 21TXL w/calibrated | 1099. |
| SuperMac17XL* 17" | 399. |
| Precision View 21" | 1579. |
| Presview 21" SR | 2899. |
| Presview 17" SR | 1599. |
| Thunder 30/1600 | 599. |
| Thunder Power 30/1920 | 849. |
| Thunder TX 1152 | 1049. |
| Thunder 3D | 1699. |

### ViewSonic

| | |
|---|---|
| 15GS 15" 1280x1024 .27dp | 349. |
| 15GA2 15" 1280x1024 w/spkr .27dp | 369. |
| 17EA 17" 1024x768 w/spkrs .27dp | 499. |
| 17GA 17" 1280x1024 .27dp | 599. |
| 17PS 17" 1600x1280 .25dp | 649. |
| G800 20" 1600x1200 .28dp | 1049. |
| P815 21" 1600x1200 .25dp | 1399. |
| G810 21" 1600x1200 .25dp | 1199. |
| P810 21" 1600x1200 .25dp | 1299. |

### Apple 1705 17" Monitor $499

| | |
|---|---|
| Apple 15" AV | 359. |
| Apple 15"* | 299. |
| Apple 1710 17" | 649. |
| Apple 720 17" | CALL. |
| Apple 750 17" | 799. |
| Apple 750 AV 17" | 899. |
| Apple 850 20" | 1449. |
| Apple 850 AV 20" | 1749. |

## Apple Processors

| | |
|---|---|
| Apple 132 MHz 604e | 99. |
| Apple 150 MHz 604e | 149. |
| Apple 200 MHz 604e | 499. |
| Apple 233 MHz 604e | 599. |

## Newer Technology

| | |
|---|---|
| MAXpowr 200MHz 604e with Sc | 599. |
| MAXpowr 225MHz 604e with SBT | 699. |
| MAXpowr Citation 200MHz 604e no SBT | 349. |
| MAXpowr Citation 233MHz 604e no SBT | 439. |
| MAXpowr Pro 250MHz 750 512k Bcksd. Cache | 1199. |
| MAXpowr Pro+266MHz 750 1MB Bcksd. Cache | 2099. |
| NUpowr 1400 183MHz 603ev 128KL2 Cache | 549. |
| NUpowr PB 500 183MHz 603ev | 699. |
| ViEWpowr PB1400 16bit video card | 249. |
| PC Card Video In/Capture | 269. |

FedEx Federal Express

- WE SHIP WORLDWIDE
- NEXT DAY SHIPPING
- SAME DAY SHIPPING

## Macintosh PowerMac's

**8600/300**
- 32MB
- 4GB
- 24xCD
- KEYBOARD

**$2599**

**9600/300**
- 64MB
- 4GB
- 24xCD
- 8MB VIDEO RAM

**$2999**

| | |
|---|---|
| 9600/350 64/4G/24xCD | CALL. |
| 9600/233 32/4G/12xCD | 2699. |
| 9600/200 32/4G/12xCD | 2399. |
| 9600/200MP 32/4G/12xCD | 2999. |
| 9500/150* 16/2G/4xCD | 1999. |
| 8600/300 32/4G/24xCD/ZIP | 2799. |
| 8600/250 32/4G/12xCD | 2099. |
| 8600/200 32/2G/CD | 1999. |
| 8500/180* 32/2G/8xCD | CALL |
| 8500/150* 16/2G/CD | 1799. |
| 7600/132* 16/1.2G/CD | 1499. |
| 7300/200 32/2G/CD/KBRD. | 1699. |
| 7300/180 16/2G/12xCD/KBD. | 1599. |
| 7300/180 32/2G/8x/DOS Compatible P166 | 2299. |
| 7200/120* 16/1.2G/4xC/DOS | 1299. |
| 7200/120* 16/1.2/CD | 1149. |
| 7200/90* 8/500/4xCD | 749. |
| 6100/66* 16/500/4xCD/DOS | 899. |
| 4400/200 16/1.2G/12xCD/KB. | 1099. |
| 4400/200 16/2G/12xCD/KB./Ethernet | 1249. |
| 4400/200 16/2G/12x/MS office | CALL. |
| 4400/200 32/2G/12x/Pentium | 1999. |
| 6500/225 32/3G/12x | 1399. |
| 6500/250 32/4G/12x/Zip Drive | 1799. |
| 6500/250 48/4G/12x/MS Office | 1879. |
| 6500/275 32/4G/CD/MDM | 2099. |
| 6500/300 64/4G/CD/Zip | 2099. |

## Macintosh Performas

*Monitor sold Seperately*

| | |
|---|---|
| 6360/120* 16/1.2G/CD | 799. |
| 6400/200 16/2.4G/8CD/VE | 1599. |
| 6400/200 16/2.4G/8xCD | 1049./1199. |
| 6400/180 16/1.6G/8xCD | 899./1099. |
| 640/33DOS* 12/500/CD/DOS | 599. |
| 6320/120 16/1.2G/4xCD | 899. |
| 6320/120 16/1.2G/4xCD/TV/with monitor | 1199. |
| 6220/75* 16/1.2G/4xCD | 699. |
| 6200/75* 8/1.2G/4xCD | 599. |
| 5400/120* 16/1.6/8xCD/15" built in | 1199. |
| 5200/75* 8/800/CD | 699. |
| LC580 8/800 | 699. |

## Macintosh Powerbooks

**3400/200**
- 16MB
- 2GB
- 12xCD

**$2699**

**3400/240**
- 16MB
- 3GB
- 12xCD

**$3699**

C: Active Color, CS: Passive Color

| | |
|---|---|
| 2300c* 100MHz, 8/750 | CALL. |
| 2300c* 100MHz, 20/1GB/14.4 | CALL. |
| 1400cs 117MHz 12/750 | CALL. |
| 1400cs 117MHz 16/750/6x Cd | CALL. |
| 1400cs 133MHz 16/1.3Gi/8x | 1899. |
| 1400c 133MHz 16/1G/CD | 2299. |
| 1400c 166MHz 16/2G/CD | 2399. |
| 2400c 180MHz 16/1.3G | 2899. |
| 3400c 180MHz 16/1.3G | 2599. |
| 3400c 180MHz 16/1.3G/12X/Modem | 2899. |
| 3400c 200MHz 16/2G/12x/Modem | 2999. |
| 3400c 240MHz 16/3G/12x/Modem | 3899. |
| 5300ce 32/1G | CALL |
| 5300c 16/750 | CALL |
| 5300c 8/500 | CALL |
| 5300cs/100* 16/750/14.4 Modem | 1299. |
| 540c 4/320 Used | 999. |
| 520c 4/240 | CALL |
| 520 4/240 | CALL |
| DUO250* 12/200/Modem | 799. |
| DUO280* 12/240/Modem | 999. |
| DUO280C* 12/240 | 799. |

WACOM

| | |
|---|---|
| ArtZ 4x5 | 139. |
| ArtZ 6x8 | 289. |
| ArtZ 12x12 | 389. |
| ArtZ 12x18 | 599. |

Now You See It. ATI

| | |
|---|---|
| 2MB ATI Video Card | 229. |
| 4MB ATI Video Card XClaim | 329. |
| 4MB ATI Video Card VR | 379. |
| 8MB ATI Video Card | 479. |

## IMS Video

| | |
|---|---|
| 2MB IMS Video Card | 199. |
| 4MB IMS Video Card | 299. |
| 8MB IMS Video Card | 449. |

NOMAI

| | |
|---|---|
| 750MB MAC external | 299. |
| 750MB MAC Cartidges | 55. |
| 750MB MAC Cartidges 3-Pack | 149. |
| EZ135 MAC Cartidges | 17. |
| EZ135 MAC Cartidges 10-Pack | 159. |
| CD-R Media Single/10-Pack | 5/35. |

UMAX

| | |
|---|---|
| S910DP 250MHz 64/4G RAID/24x/8MVR/Zip/E100 | 6099. |
| S900DP 250MHz 64/4G RAID/8x/8MVR/Zip/100BT | 5999. |
| S900/250MHz 32/2G/8x/8MVR/Zip/100BT | 2999. |
| S900/233MHz 32/2G/8x/8MVR | 2499. |
| S900/200MHz 32/2G/8x/4MVR | 2149. |
| J700/180MHz 24/2G/4x/2MVR/33.6 | 1599. |
| C600X/280MHz 32/4G/12x/2MVR/10BT/33.6 | 1999. |
| C600X/240MHz 32/3G/12x/1MVR/10BT/33.6 | 1649. |
| C500I/200MHz 16/2G/12x/1MVR/33.6 | 1049. |
| C500LT/200MHz 16/2G/8x/1MVR | 999. |

### Tektronix

| | |
|---|---|
| Phaser 140 COLOR | 949. |
| Phaser 300X COLOR | 4999. |
| Phaser 350 COLOR | 2999. |
| Phaser 380 COLOR | 7899. |
| Phaser 450 COLOR | 6099. |

## Fax Modems

Global Village Communication

| | |
|---|---|
| GV 56K Teleport | 229. |
| GV 56K PCMCIA | 269. |
| GV 56K Platinum Pro + Ethernet | 379. |
| GV 19.2 Mercury PB 500 Series | 129. |
| GV 14.4 Gold PCMCIA | 99. |
| GV 14.4 Gold Teleport External | 69. |
| Powerport Platinum 33.6 | 239. |
| Teleport 33.6 w/Voice | 159. |

### US Robotics

| | |
|---|---|
| Sportster 56K | 199. |
| Sportster 56K PCMCIA | 259. |
| Sportster 33.6K | 159. |

## Memory

| | |
|---|---|
| 16MB Dimm PPC | 79. |
| 16MB Simm Performa/PC | 79. |
| 16MB for PwrBook 1400/3400 | 129. |
| 24MB for PwrBook 1400 | 169. |
| 32MB Dimm PPC | 149. |
| 32MB Simm Performa/PC | 149. |
| 32MB for PwrBook 1400/3400 | 199. |
| 64MB Dimm PPC | 249. |
| 64MB for PwrBook 3400 | 399. |
| 128MB Simm PPC | 849. |

### Asante

| | |
|---|---|
| ASANTE 10B/T Ethernet | 59. |

## Macintosh Workgroup Servers

*Monitor sold Seperately*

| | |
|---|---|
| 9650/350 64/4G/20X/Dat Apple Share | CALL. |
| 9650/233 64/4G/12x/Apple Share | 5999. |
| 9650/233 48/4G/12x/Internet Ready | 4999. |
| 9650/233 48/4G/12x/2GB Dat Drv. | 5499. |
| 8550/200 32/2G/CD/Apple Share | 4199. |
| 8550/200 32/2G/CD/Apple Share/Dat | 4999. |
| 7350/180 48/4G/12x/Apple Share | 3099. |
| 7350/180 48/4G/12x/Internet Ready | 2899. |
| 7350/180 48/4G/12x | 2449. |
| 7250/120 16/1.2G/CD/Networking | 1299. |

## Powerbook Hard Drives

| | |
|---|---|
| 1.4GB Toshiba 1401MAV 12ms | 199. |
| 2.1GB Toshiba 2103MAV 12ms | 279. |
| 3 GB Hitachi Slim 12ms | 449. |

## iomega

| | |
|---|---|
| Jaz 2GB Drive External SCSI | 629. |
| Jaz Drive Internal SCSI | 299. |
| Jaz Drive External SCSI | 369. |
| Zip Drive Internal SCSI | 149. |
| Zip Drive External SCSI | 149. |
| 3 Pack Jaz Cartridges | 240. |
| 10 Pack Zip Cartridges | 130. |
| Single Cartridges for Jaz | 89. |
| Single Cartridge for Zip | 13 |

## External Hard Drives

| | |
|---|---|
| IBM Orion 2.1GB SCSI 3.5 | 279. |
| ***IBM Capricorn 4.3GB Ultra SCSI 3.5*** | 349. |
| IBM Capricorn 4.3GB Ultra Wide SCSI 3.5 | 499. |
| Quantum Strata 2.1GB SCSI 3.5 | 279. |
| Quantum Strata 4.3GB SCSI 2.5 | 359. |
| Quantum Atlas II 4.5 Ultra SCSI AV 3.5 | 599. |
| Quantum Atlas II 4.5 Ultra Wide SCSI AV 3.5 | 699. |
| Quantum Atlas II 9.1 Ultra SCSI AV 3.5 | 899. |
| Quantum Atlas II 9.1 Ultra Wide SCSI AV 3.5 | 999. |
| Seagate Cheetah 4.3 Ultra SCSI AV 10000RPM | 799. |
| Seagate Cheetah 4.3 Ultra W SCSI AV 10000RPM | 899. |
| Seagate ST34371N 4.3GB Ultra SCSI 3.5 AV | 699. |
| Seagate ST34371W 4.3GB Ultra SCSI Wide 3.5 AV | 799. |
| Seagate Cheetah 9.1GB Ultra SCSI AV 10000RPM | 1099. |
| Seagate Cheetah 9.1GB Ultra W SC AV 10000RPM | 1199. |

## Software

*Following Prices valid with purchase of a Computer. The following Software are full Versions.*

| | |
|---|---|
| Microsoft Office 97 | 299. |
| Microsoft Word 97 | 199. |
| Microsoft Excel 97 | 199. |
| Microsoft Powerpoint 97 | 199. |
| Macromedia Director | 499. |
| Microsoft Access 97 | 199. |
| Adobe Photoshop 4.0 | 349. |
| Adobe Pagemaker 6.5 | 349. |
| Adobe Illustrator | 299. |
| Macromedia Freehand | 299. |

## Printers

HEWLETT PACKARD

| | |
|---|---|
| HP DeskJet 340 | 299. |
| HP DeskJet 670C/692C | 199./299. |
| HP DeskJet 820CXI/870CX | 279./399. |
| HP LaserJet 6LXI/6PXI | 385./729. |
| HP LaserJet 6MP/5M | 849./1399. |
| HP LaserJet 5/5N | 949./1199. |
| HP LaserJet 4V/4MV | 1699./2399. |
| HP LaserJet 5SI/5MX | 2299./3399. |
| HPColor LaserJet 5/5M | 3799./4799. |
| HP OfficeJet 590/1150C Pro | 599./939. |

EPSON

| | |
|---|---|
| Epson Stylus Color 600/800 | 289./389. |
| Epson Stylus Color 3000 | CALL. |

Apple

| | |
|---|---|
| Apple Select 360* | 899. |
| *Apple Demo Clr LaserWriter 12/660 28mb/240hd* | 2499. |
| Apple Laser 12/640 | 1049. |
| Apple Lase 16/600PS | 1199*/1399. |
| Apple Laserwriter 8500 | CALL. |
| Apple Stylewriter 1500 | 159*/199. |
| Apple Stylewriter 4100 | 229. |
| Apple Stylewriter 4500 | 329. |
| Apple Stylewriter 6500 | 379. |

**Apple portable 2200 Color Style Writer $279**

## PHILIPS/MAGNAVOX 4 YEAR ON SITE WARRANTY!

ASK YOUR SALES REP REGARDING EXTENDED ON-SITE WARRANTY ON NEW AND REFURBISHED PRODUCTS.
THE ON-SITE WARRANTY BEGINS 31 DAYS AFTER THE INVOICE DATE IN MOST SITUATIONS.

| $701 to $1200 | $1201 to $2000 | $2001 to $3000 | $3001 to $4000 | $4001 to $5000 | $5001 to $7500 | $7501 to $10000 | $10001 to $15000 |
|---|---|---|---|---|---|---|---|
| $157.99 | $185.99 | $217.99 | $261.99 | $291.99 | $343.99 | $431.99 | $552.99 |

Terms & Conditions: All prices are cash discounted. We accept VISA, MC, Amex & Discover. COD orders will be payed by Cashier's Check, Money Order, or Certified Check only. Purchase orders will be accepted from qualified companies upon approval. Customers must pay for all shipping & insurance fees. Due to unforeseen charges in the market, prices, products & delivery are subject to change without notice. Not responsible for typographical errors. Prices given at the time of the sale are final. Shipping, insurance and COD fees are non-refundable. No refunds will be given after 3 days. 15% restocking fee on all returns. All returns must have an RMA number. All returns must have all original packing materials, manuals, warranty cards & all accessories. Trademarks are registered with their respective companies. No refunds on software & hardware. Ask for warranty and details at the time you are placing an order.

Visit Us At Our Web Site http://www.LACC.com
24Hrs A Day -- On-Line Catalog & Ordering
E-Mail us at: lacc@lacc.com or Call us at (800) 689-3933

All prices subject to change without notice • All Prices reflect cash discount • * reflects Factory refurbished units

MW 0198

**COMPU.D** International, Inc. 1-800-929-9333 www.compu-d.com

*Sales:*(818)787-3282 *Fax:*(818)787-5555
*e-mail:*csales@compu-d.com
All prices are based on C.O.D. order & subject to change!

**PowerMacs**

| | | |
|---|---|---|
| 9600/350 | 64-4GB, 24xCD | $4295 |
| 9600/300 | 64-4GB, 24xCD, Zip | $3145 |
| 9600/233 | 32-4GB, 12xCD | $2595 |
| 8600/300 | 32-4GB, 24xCD, Zip | $2695 |
| 8600/250 | 32-4GB, 24xCD | $2345 |
| 8600/200 | 32-2GB, 12xCD | $2145 |
| 7300/200 | 32-2GB, 12xCD | $1695 |
| 7300/180DOS | 32-2GB, 12xCD | $2395 |
| 6500/300 | 32-4GB, 12xCD, Zip, 33.6 | $2245 |
| 6500/275 | 64-4GB, 12xCD, TV, Avid | $2245 |
| 6500/250 | 32-4GB, 24xCD, Office | $1845 |

3400c/240 MHz 16/3GB, CD $3495
3400c/200 MHz 16/2GB, CD $2595
1400c/166 MHz 16/2GB, CD $2195
1400cs/133 MHz 16/1.3GB, CD $1795
233Mhz Proc. Card $395

**PowerBooks**

| | | |
|---|---|---|
| 3400c/240 | 48-3GB, CD, 10B-T, 56K | $3995 |
| 3400c/200 | 48-2GB, CD, 10B-T, 56K | $3195 |
| 1400c/166 | 32-2GB, 8xCD, 33.6 | $2445 |
| 1400cs/133 | 48-2GB, 8xCD, 33.6 | $1995 |
| Duo2300c | 8-750 & 40-2.1GB | $995/1395 |

**Printers & Displays**

| | |
|---|---|
| LaserWriter 16/600 PS | $1095 |
| 12/640 PS *12ppm, 600DPI* | $1095 |
| Apple 1705/750 17" Display | $499/699 |
| Apple Vision 850/850AV | $1395/1695 |

5M/5MP $1395/625
4MV/4000 $2350/Call
DskJt.1600CM $1195

*Deals of the Month*

| | |
|---|---|
| Adobe Photoshop 4 | $345 |
| " PageMaker 6.5 | $345 |
| " Illustrator 7.0 | $239 |
| QuarkXpress 3.3.2 | $625 |
| MS Office 4.2.1 | $259 |
| UMAX Astra 600 | $159 |
| UMAX Astra 1200 | $279 |
| LaCie 2x6 CDR/Toast | $379 |
| LaCie 4x6 CDR/Toast | $569 |

Visit our Web Site for Complete List of Products

**MacGlobal**
SYSTEMS AND PERIPHERALS • SALES AND SERVICE

**Performas**
410/466/476 Call
550 5/160 $700
580 5/500/CD $800
631 8/500/CD $550
6200 8/1G/CD $675
5200 8/500/CD $995

**PowerBooks**
520 4/160 $850
520C 12/240/19.2 $1195
540C 4/320 $1,395
5300 8/500 $995

**Power Macs**
7200 8/500 Call
7500 16/500 Call
8500 16/500 Call

**Quadras**
630 8/250 Call
650/800/840/950 Call

**Memory**
4 MB 72-pin $29
8 MB 72-pin $42
16 MB 72-pin $89

**Printers**
Stylw II $185.00
Stylw 1200 $175
Laser 300 $299
Laser 320 $490
Laser 4/600 Call

**Monitors**
14" Color $195
15" App. Multi. $265
17" App Multi. $450
20" GS $540

We Buy!
**WE REPAIR MACS!**
**TOP DOLLAR paid for memory, PowerBooks and CPUs!**

[800] 722-8864
Phone: [408] 268-3300
Fax: [408] 997-1400

MacGlobal

CIRCLE 423 ON READER SERVICE CARD

**POWERBOOK PRODUCTS**

**IDE PowerBook Drives**
For use in PB 3400, 2400, 1400, 5300, 190, 150 & Duo 2300

| | | | |
|---|---|---|---|
| 1.0 GB | TOSHIBA | $179.00 | 3yr |
| 1.4 GB | TOSHIBA | $199.00 | 3yr |
| 2.1 GB | TOSHIBA | $249.00 | 3yr |
| 3.2 GB | HITACHI | $439.00 | 3yr |
| 4.0 GB | IBM | $599.00 | 2yr |
| 5.0 GB | IBM | $699.00 | 2yr |

*Don't Trash your old drive!*
Use our PC-card IDE case and save your megabytes *$129.00*

**SCSI PowerBook Drives**
For use in PB 500 Series, Duo 200 Series, PB140-180c (except 150)

| | | | |
|---|---|---|---|
| 810 MB | TOSHIBA | $399.00 | 3yr |
| 1.4 GB | IBM (converted) | $649.00 | 1yr |
| 2.0 GB | IBM (converted) | $879.00 | 1yr |

**External Drives**

| | | |
|---|---|---|
| 1.0 GB | JAZ DRIVE | $369.00 |
| | *Includes P.B. SCSI Adaptor* | |
| 1.0 GB | JAZ MEDIA | $85.00 |

All MCE PowerBook hard drives carry a 30 day Money Back Guarantee & ship with 1) Charismac Anubis Formatting Utility Software 2) Illustrated installation manual 3) Anti-static wrist strap. Torx Tool $2 w/drive.

newertech

| | |
|---|---|
| NUpowr 500/183c (0MB) | $729.00 |
| NUpowr 500/183c (24MB) | $899.00 |
| NUpowr 1400/183 | $549.00 |
| NUpowr 500/167c (8MB) | $579.00 |

MCE powrUP 500/183c Bundle
Includes: NUpowr 500/183c (24MB) *PLUS*
Toshiba 810 MB 2.5" SCSI HD $1239.00
Newertech Ethernet Micro Dock $179.00

*FREE* with every order!
ADB Flexlight - Great for dark lecture halls, planes, cars or in the field $29.95 separately

MCE POWERBOOK PRODUCTS
See our complete line of PowerBook Products & Upgrades at
www.PowerBook1.com
1-800-5000-MAC • 714-458-0800 • fax 714-458-1803
30 Hughes Suite 203 • Irvine, CA • 92618
Visa / MC / AmEx / Discover / P.O.'s

**MACS & POWERBOOKS WANTED**

TOP $$$ PAID FAST!

MAC Solutions
11933 Wilshire Bl.
W. Los Angeles, CA 90025
www.macsolutions.com

Any Quantity
Trade Ups Welcome
FedEx check delivery
We Buy, Sell & Trade New & Used Macs

(800) 80-WE-BUY
Tel:(310) 966-4444 Fax:(310) 966-4433

CIRCLE 427 ON READER SERVICE CARD

**J&J Computers**

| | | | |
|---|---|---|---|
| 14" Apple Multiscan | | | $250.00 |
| 15" Apple Multiscan | | | $275.00 |
| 17" Apple Multiscan | | | $435.00 |
| PB: | 520 | 8/240 | $879.00 |
| PB: | 520c | 8/240 | $995.00 |
| PB: | 540c | 8/320 | $1125.00 |
| PB: | 5300 | 8/500 | $995.00 |

Buy • Sell • Trade
1-888-868-1925

"Friends don't let friends use 'DOS'!"

... Buy or Sell Any Macintosh Through Us!

**United Computer Exchange**
800.755.3033 770.612.1205
Visit Our Online Exchange at www.uce.com

UNITED COMPUTER EXCHANGE

CIRCLE 439 ON READER SERVICE CARD

THE BEST IN REMANUFACTURED Macintosh
COMPUTERS & PARTS
■ GENUINE APPLE PRODUCTS AT BIG SAVINGS
■ "LIKE NEW" REMANUFACTURED SYSTEMS & PERIPHERALS
■ EXCHANGE REPAIR & STOCKING PARTS
■ 180 DAY LIMITED WARRANTY
■ WE BUY YOUR SURPLUS APPLE PRODUCTS

**Pre-Owned Electronics**
1-800-274-5343
Offices: 781-778-4600 Fax: 781-778-4848
124 MIDDLESEX TPKE., BEDFORD, MA 01730

CIRCLE 435 ON READER SERVICE CARD

**MacBYTE**
NO PAYMENT FOR 6 MONTHS!
BUY • SELL • TRADE
•CASH FOR MACS
•NEW & USED MACS WITH WARRANTIES
•FEDEX OVERNIGHT SHIPPING
Visa/Mastercard/Amex/Discover
Diners Club/COD
Local Area On-Site Consulting
800-432-2983
4223 Glencoe Ave., Suite C200
Marina del Rey, CA 90292
FAX: 310 - 448 - 4494
E-MAIL: MacByte@aol.com

CIRCLE 429 ON READER SERVICE CARD

MOTOROLA Authorized Reseller

UMAX Authorized Reseller

# MAC TO GO™

your #1 Apple Super Source

## Power Macintosh® 4400

200MHz 16/2G/CD/KB $1219

200 Office 32/2G/CD/KB $1489

## Power Macintosh® 7300

180MHz 16/2G/CD/KB $1739

200MHz 32/2G/CD/KB $1839

## Power Macintosh® 6500

225MHz 32/3G/CD/KB $1489

## Power Macintosh® 6500

250MHz 32/4G/24xCD/56k $1789

250 Office 48/4G/CD/Zip/KB $1919

## Power Macintosh® 6500

275MHz 32/4G/CD/KB $2239

300MHz 64/4G/CD/Zip/33.6 $2239

## Power Macintosh® 4400/PC

200MHz 32/2GB/12xCD PC Card $2019

## Power Macintosh® 8600

200MHz 32/2G/12xCD ZIP/KB $2079

## Power Macintosh® 8600

250MHz 32/4G/24xCD ZIP/KB $2249

## Power Macintosh® 8600

300MHz 32/4G/24xCD ZIP/KB $2599

## Power Macintosh® 9600

200MHz 32/4G/CD/KB $2369

200MP 32/4G/CD/KB $3179

## Power Macintosh® 9600

233MHz 32/4G/12xCD $2749

## Power Macintosh® 9600

300MHz 64/4G/24xCD ZIP/KB $3429

## Power Macintosh® 9600

350MHz 64/4G/24xCD KB $4899

## PowerBook® 3400c

200Mhz 16/2G/6xCD $3089

## PowerBook® 3400c

240Mhz 16/3G/12xCD $4079

## PowerBook® 1400cs

117Mhz 16/750/CD $1699

## PowerBook® 1400c

166Mhz 16/2G/8xCD $2459

## SONY 100sx/100sf

SONY Sale!

15" Monitor .25 Dot Ptch $327/349

## SONY 200sx/200sf

SONY Sale!

17" Monitor .25 Dot Ptch $585/639

## SONY 300sf/20SE2

20" Monitor $1299/1689

## PERFORMA

Sale!

| | | |
|---|---|---|
| 6360/160 | 16/1.6/CD/KB | 929 |
| 6400/180 | 16/1.6/8XCD | 1069 |
| 6400/200 | 16/2.4/8XCD | 1199 |
| 6400/200 | Video Edit. | 1599 |

## POWERBOOK®

| | | |
|---|---|---|
| Apple | eMate 300 | 769 |
| 1400CS/117 | 16/750/CD | 1699 |
| 1400Cs/133 | 16/1.3G/8xCD | 1849 |
| 1400C/133 | 16/1.3/6xCD | 2269 |
| 1400C/133 | 16/1.3/8xCD | 2439 |
| 1400C/166 | 16/2GB/8xCD | 2459 |
| 3400C/180 | 16/1.3G/12xCD | 2899 |
| 3400C/200 | 16/2GB/12xCD | 3249 |
| 3400C/240 | 16/3GB/12xCD | 4079 |
| 5300C/100 | 8/500/Active | 1499 |
| DUO 2300C | 20/1.1/ MDM | *1349 |
| DUO 2400C/180 | 16/1.3G | 3149 |

## Apple® Monitors

| | |
|---|---|
| MS 15" | *279 |
| MS 15AV | 349 |
| MS 1705/1710 | 499/659 |
| MS 1710AV | 749 |
| AppleVision 750 | 699 |
| AppleVision 750AV | 819 |
| AppleVision 850 | 1439 |
| AppleVision 850AV | 1729 |

## WorkGroup®

*WorkGroup Specialist!*

| | | |
|---|---|---|
| 6150/66 | 16/1.2/INTRNT | 999 |
| 7250/120 | 16/2GB/INRNT | 1299 |
| 7350/180 | 48/4GB/12XCD | 2369 |
| 7350/180 | 48/4GB/CD/Intrnt | 2795 |
| 7350/180 | 48/4GB/CD/AShr | 2979 |
| 9650/233 | 64/4GB/CD/Intrnt | 4699 |
| 9650/233 | 64/2X4GB/CD | 4949 |
| 9650/233 | 64/2X4GB/CD/AS | 5679 |
| 9650/233 | 64/4GB/AS/DAT | 5679 |
| 9650/350 | 64/4GB/CD/AS | CALL |
| 500/132 | 32/CD/BASE | 6399 |
| 500/132 | 32/2GB/DAT/CD | 7789 |
| 700/150 | 32/1GB/CD | 7349 |
| 700/150 | 48/4GB/DAT/CD | 9149 |
| 700/200 | 48/2-4GB/CD | 10789 |

## Apple® Printers

| | |
|---|---|
| StylWrtr 2200 | 269 |
| StylWrtr 1500/2500 | 169/209 |
| StylWrtr 4100/4500 | 237/327 |
| StylWrtr 6500 | 449 |
| LsrWrtr 8500 | 2269 |
| LsrWrtr 12/640 PS | 1069 |
| LsrWrtr 16/600 W/Tnr | 1579 |
| LsrWrtr 12/660Ps Kit | 3789 |

## Power Macintosh®

| | |
|---|---|
| 6500/225 32/3GB/CD/33.6 | 1489 |
| 6500/250 32/4GB/CD/56k | 1789 |
| 6500/275 32/6GB/CD/Zip | 2249 |
| 6500/275 32/4GB/CD/VID | 2239 |
| 6500/275 48/6/CD/Zip/OFC | 2499 |
| 6500/300 64/4GB/CD/Zip | 2239 |
| 6000/300 64/6/CD/Zip/56K | 2519 |
| 6500/250 48/4/CD/Zip/OFC | 1919 |

## UMAX

| | |
|---|---|
| C500/180 16/1.2/CD/28.8 | 1039 |
| C600/200 16/2GB/CD/28.8 | 1199 |
| J700/180 24/2GB/CD/33.6 | 1689 |
| S900/200 32/2GB/CD/KB | 2329 |
| S900/233 32/2GB/CD/KB | 2679 |
| S900/250 32/2GB/Zip | 3349 |
| S900/200DP 32/2GB/CD | 2959 |
| S900/250DP 64/4GB/Zip | 6149 |

## SONY

| | |
|---|---|
| 100SX/100SF 15" | 327/349 |
| 200SX/200SF 17" | 585/639 |
| 220vs/17SE2 | 829/839 |
| 300SF 20" | 1299 |
| 20SE2 1600X1280 .25 | 1689 |
| GDM-W900T 24" | 4199 |

## NEC

| | |
|---|---|
| M500/M700 | 379/737 |
| E500/E700 | 375/649 |
| P750/XE21 | 829/1469 |
| E1100/P1150 | 1349/1489 |

## HEWLETT PACKARD

| | |
|---|---|
| DeskWriter 680C | 289 |
| DeskJet 340 Portable | 318 |
| DeskJet 870CXi | 375 |
| DeskJet 1600CM | 1599 |
| LaserJet 6MP | 839 |
| Color LaserJet 5M | 4799 |
| LaserJet 4MV | 2299 |
| LaserJet 5M | 1439 |
| LaserJet 5SI MX | 3349 |
| ScanJet 6100C NEW | 699 |
| DesignJet 755CM Plotter | Call |

## EPSON®

| | |
|---|---|
| Expression 636 Exec | 699 |
| Expression 636 Artist | 909 |
| Expression 636 Proff. | 1249 |
| Stylus Color 600/800 | 255/379 |
| Stylus PHOTO/1520 | 435/729 |
| Stylus Color ProXL | 1369 |
| Stylus Color 3000 | 1649 |

## AGFA

| | |
|---|---|
| Arcus II Le/Full | 1249 /1479 |
| StudioStar LE/Full | 749/899 |
| StudioScanIIsi Le/Full | 459/589 |
| SnapScan | 259 |
| EPhoto Digital Camera | 279 |

## UMAX

| | |
|---|---|
| Astra 600S | 169 |
| Astra 1200S Deluxe | 399 |
| Astra 1200S w/full Photo | 499 |
| PowerLook II Pro | 1269 |
| Mirage IISe/II | 3159/6689 |

## GLOBAL VILLAGE

| | |
|---|---|
| Platinum 33.6 | *89 |
| Teleport x2/K56 | 149 |
| Powerport PC | 199 |
| Powerport Pro | 285 |
| Powerport PCs6k | 248 |
| Powerport Pros6k | 295 |

## WACOM

| | |
|---|---|
| Art Pad II | 129 |
| Artz II 6x8 | 289 |
| Artz II 12 x 12 | 399 |
| Artz II 12 x 18 | 649 |

## MICROTEK

| | |
|---|---|
| ScnMkr E3 | 185 |
| ScnMkr E6 | 329 |
| ScnMkr E6 Pro | 499 |
| ScnMkr III | 1299 |

## IXMicro

| | |
|---|---|
| Turbo TV | 95 |
| 4MB PCI | 249 |
| 8MB PCI | 445 |

## NEWTON

| | |
|---|---|
| 2000 5MB | 909 |
| 2000 5MB,KB | 979 |
| 2MB / 4MB | 69/139 |
| Keyboard | 79 |

## ViewSonic

| | |
|---|---|
| 15GS 15" | 329 |
| 15GA 15" | 369 |
| 17GS 17" | 569 |
| 17GA 17" | 607 |
| 17PS 17" | 699 |
| GT770 17" | 629 |
| P810 21" | 1349 |
| PT770 17" | 688 |
| PT813 20" | 1459 |
| P815 21" | 1499 |
| G810 21" | 1399 |

## TARGA

| | |
|---|---|
| Targa 2000 | 2685 |
| Targa 2000 Pro | 2899 |

## iOMEGA

| | |
|---|---|
| ZIP 100mb drive | 135 |
| JAZ 1gb drive | 369 |
| 100mb/1gb | 12/79 |

## Nikon

| | |
|---|---|
| ScanTouch | 569 |
| CoolScan II | 859 |
| Super CoolScn | 1639 |

## FWB®

| | |
|---|---|
| SldgHmr 8200 | 2799 |
| SldgHmr 17400 | 4589 |
| Hmr DLT 15GB | 2589 |
| SledgeHammer PCI UW | |

MAC TO GO™

Toll Free! 1-888-MAC-TOGO

E-Mail: mactogo@knl.com Customer Service: 310.444.1122 Facsimile : 310.444.1130

Gov't,Schools,Fortune 500 P.O.'s Welcome. "*" denotes Refurb prod. Visa,MC,AMAX accepted.Prices are Cash Discounted for COD Cash/Cashier Check.Prices may change without notice. Limited stock. All Sales are Final.

CIRCLE 428 ON READER SERVICE CARD

1-800-533-9005
E-MAIL US AT: COMPAMER@aol.com
(310) 446-1771 10435 Santa
FAX Bids: Monica Blvd
(310) 475-7744 LA, CA 90025
We are open on Saturday!

COMPU AMERICA
"The Computer Specialist"

Check out our WEB!!!
UPDATED DAILY!!! Shipping Estimates
Online Ordering International Sales
Stock/Availability Credit/COD/Leasing
Color Photos No Wait! No hold!
Complete Specs Completely Accurate!
HTTP://WWW.COMPU-AMERICA.COM

Goverment, University, and Fortune 1000 P.O.'s are welcome! International Orders Please call (310) 446-1771

## PowerMac 8600

SPECIAL!

604e WITH 256K LV2 CACHE
32MB RAM
3 PCI SLOTS
2MB VRAM
16-BIT STERIO SOUND
BUILT IN VIDEO IN/OUT

300MHZ 604E 4GIGHD 24XCD **$2599**
250MHZ 604E 2GIG HD 12XCD **$2099**

## PowerBook 3400C

SPECIAL!

603e WITH
256K LV2 CACHE
16 MB RAM
2 PCMCIA SLOTS
12.1" DISPLAY
800X600 RESOLUTION
16-BIT STEREO SOUND

240MHZ 3GIGHD 12XCD **$3699**
200MHZ 2GIG HD 12XCD **$2699**
200MHZ 2GIG HD **$2599**

### NEW POWERMACS!

| | | |
|---|---|---|
| 9600/350 | 64/4G/24X | CALL |
| 9600/300 | 64/4G/24X | 2999 |
| 9600/200MP | 32/4GIG/CD | 2999 |
| 9600/233 | 32/4GIG/CD | 2699 |
| 9600/200 | 32/4GIG/CD | 2399 |
| 8600/300 | 32/4G/24X | 2599 |
| 8600/250 | 32/4G/24X | 2099 |
| 8600/200 | 32/2GIG/CD | 1999 |
| 7300/PEN | 32/2GIG/CD | 2299 |
| 7300/200 | 32/4GIG/CD | 1699 |
| 7300/180 | 16/2GIG/CD | 1599 |
| 6500/300 | 32/4G/CD | 2099 |
| 6500/275 | 64/4G/CD/ZIP | 2099 |
| 6500/250 | 48/4G/CD/ZIP/O | 1879 |
| 6500/250 | 32/4G/CD/ZIP | 1699 |
| 6500/225 | 32/3G/CD | 1399 |
| 4400/200 | 16/1G/CD/KEY | 1099 |
| 4400/200 | 16/2G/CD/KEY | 1249 |

### POWERMAC

| | | |
|---|---|---|
| 7200/75 | 8/500/4XC | 699* |
| 7200/90 | 8/500/4XCD | 749* |
| 7200/120 | 16/1.2G/8XCD | 999* |
| 7200/120 | 16/1.2G/DOS | 1299* |
| 7600/120 | 16/1G/4XCD | 1299* |
| 7600/132 | 16/1G/CD | 1399* |
| 8500/120 | 16/2G/4XCD | 1499* |
| 8500/132 | 16/1.2G/4XCD | 1599* |
| 8500/150 | 16/2G/8XCD | 1699* |
| 8500/180 | 32/2G/8XCD | 1799* |
| 9500/132 | 16/2G/8XCD/V | CALL |
| 9500/150 | 16/2G/4XCD/VID | CALL |
| 9500/200 | 32/2G/8XCD | 1999* |
| 9500/180 | MP 32/2G/8XCD | 2299 |
| 8100/100 | 8/700 | 999* |
| 8100/100 | 16/1GIG/CD | 1399* |
| 8100/110 | 16/2G/4XCD | 1499* |

### Apple Printers

| | |
|---|---|
| SW 2200 | 279 |
| SW 1500 | 149* |
| SW 4100 | 229 |
| SW 4500 | 329 |
| SW 6500 | 379 |
| Apple LW 4/600PS | 599* |
| Apple LW 12/640/PS | 1049 |
| Apple LW 16/600PS | 1399/1099* |
| Apple LW 12/660PSC | 3999/3399* |

### APPLE Monitors

| | |
|---|---|
| Apple MS 15" | 299 |
| Apple MS 15AV | 359 |
| Apple 1705 17" | 499 |
| Apple 1710 | 649 |
| Apple 750 17" | 799 |
| Apple 750AV 17" | 899 |
| Apple Multiscan 850 20" | 1449 |
| Apple Multiscan 850AV 20" | 1749 |

### POWERBOOKS

| | | |
|---|---|---|
| 3500C/350 | 64/5G/20XCD | CALL |
| 3500C/300 | 32/5G/20XCD | CALL |
| 3500C/275 | 32/5G/20XCD | CALL |
| 3400C/240 | 16/2G/12X/MOD | 3899 |
| 3400C/240 | 16/2G/12XCD | 3699 |
| 3400C/200 | 16/2G/12X/MOD | 2999 |
| 3400C/200 | 16/2G/12XCD | 2699 |
| 3400C/180 | 16/1.2G/12XCD | 2899 |
| 3400C/180 | 16/1.3G | CALL |
| 2400C/180 | 16/1.3G | 2699 |
| 1400C/166 | 16/2G/CD | 2399 |
| 1400C/133 | 16/1G/CD | 2299 |
| 1400CS/133 | 16/1G/CD | 1899 |
| 5300CS/100 | 16/750/MOD | 1199* |
| 5300CS/100 | 8/750 | 1099* |
| DUO 2300C | 20/1.2GB/14.4 | CALL |
| DUO 2300C | 8/750/14.4 | CALL |
| DUO DOCK | | 479 |

### PERFORMAS

| | | |
|---|---|---|
| 6400/200V | 16/2.4G/CD | 1399* |
| 6400/200 | 16/2.4GIG/CD | 999* |
| 6400/180 | 16/1GIG/CD | 899* |
| 6320/120 | 16/1GIG/CD | 799* |
| 6300/100 | 16/1.2G/4XCD | 749* |
| 6360/160 | 16/1.2G/8XCD | 799* |
| 6220/75 | 16/1G/CD/TV | 649* |
| 6200/75 | 8/1GIG/4XCD | 599* |
| 6116/66 | 8/700/4XCD | 599* |

### WorkGroup Servers

| | | |
|---|---|---|
| 7350/180 | 48/4G/CD/SHA | 2999 |
| 7350/180 | 48/4G/CD/INT | 2799 |
| 7350/180 | 48/4G/CD | 2499 |
| 500/132 | 32/1G/CD | 6299 |
| 700/150 | 32/1G/CD | 7399 |
| 700/200 | 48/2G/CD | 9995 |
| 9650/350 | 64/4GIG/CD/INT | CALL |
| 9650/300 | 64/4G/CD/SHAR | CALL |
| 9600/300 | 64/4GIG/CD/DAT | CALL |
| 9650/233 | 64/4G/CD/SHA | 5499 |
| 9650/233 | 64/4G/CD/INTER | 4799 |
| 9650/233 | 64/4G/CD/DAT | 5099 |

### Software Specials

| | |
|---|---|
| ADOBE PHOTOSHOP | 394 |
| ADOBE PREMIER | 349 |
| ADOBE ILLUSTRATOR | 294 |
| ADOBE PAGEMILL | 99 |
| ADOBE PAGEMAKER | 499 |
| MACROMEDIA FREEHAND | 299 |
| MICROSOFT ACCESS | 199 |
| MICROSOFT WORD | 249 |
| MICROSOFT EXCEL | 249 |
| MICROSOFT POWERPOINT | 199 |
| MICROSOFT OFFICE | 399 |
| MIROMOTION DC30 | 779 |
| QUARK XPRESS | 639 |

### UMAX

| | |
|---|---|
| S900/250DP64/4G/8XCD | 4195 |
| S900/200DP32/2G/8XCD | 2495 |
| S900/180DP32/2G/8XCD | 1995 |
| S900/250 32/2G/8XCD | 3199 |
| S900/233 32/2G/8XCD | 2399 |
| S900/225 32/2G/8XCD | 1699 |
| S900/200 32/2G/8XCD | 1799 |
| S900/180 32/2G/8XCD | 1595 |
| J700/150 16/2G/8XCD | 1299 |
| J700/180 16/2G/8XCD | 1499 |
| C600/240 24/2G/8XCD | 1199 |
| C600/200 16/2G/8XCD | 1049 |
| C600/180 16/1G/8XCD | 999 |
| C500/180 16/1G/8XCD | 949 |
| VISTA Astra 600-LE | 149 |
| VISTA Astra 1200-LE | 299 |
| VISTA Astra 1200-PRO | 499 |
| VISTA Astra POWERLOOKII | 1199 |
| POWERLOOK 2000 | 3349 |
| MIRAGE IISEW/TRANS | 3699 |

### SONY

| | |
|---|---|
| Sony 100SF/100SX | 339/329 |
| Sony 200SF/200SX | 629/549 |
| Sony 300SF | 1299 |

### WACOM

| | |
|---|---|
| ARTZ II 4 X 5 | 139 |
| ARTZ II 6 X 8 | 295 |
| ARTZ II 12 X 12 | 399 |
| ARTZ II 12 X 18 | 679 |

### HEWLETT PACKARD

| | |
|---|---|
| 5SIMX | 3499 |
| 5M | 1499 |
| 5MP | 599* |
| 6MP | 829 |
| 4MV | 2299 |
| Deskjet 680C | 279 |
| Deskjet 870CXI | 389 |

### radius

| | |
|---|---|
| PRECISION VIEW 21" | 1499 |
| PRESSVIEW 21SR | 2699 |
| Thunder 30/1600 | 499 |
| Tunder color 30/1600 | 1699 |
| Thunder Power 30/1600 | 799 |
| Thunder Power 30/1920 | 999 |
| Thunder 3D 1600 x1200 | 2499 |
| VIDEO VISION STUDIO 2.0 | 2899 |
| SupermatchTXL w/Calibrator | 999* |

### MINOLTA

| | |
|---|---|
| DIMAGE V | 595 |
| DIMAGE SCAN | 695 |
| QUICKSCAN 35 | CALL |

### Tektronix

| | |
|---|---|
| PHASER 140 COLOR | 369 |
| PHASER 380X COLOR | 4899 |
| PHASER 350 LASER COLOR | 2999 |
| PHASER 380 COLOR | 7899 |
| PHASER 450 COLOR | 6099 |
| PHASER 480X COLOR | 14495 |
| PHASER 550 LASER COLOR | 3999 |
| PHASER 600 WIDE COLOR | 11999 |

### ATi

| | |
|---|---|
| XCLAIM ULTRA VR 4 MEG | 299 |
| XCLAIM ULTRA VR 2 MEG | 199 |
| XCLAIM TV TUNER | 89 |

### ViewSonic

| | |
|---|---|
| VIEWSONIC 15GA-2 | 369 |
| VIEWSONIC 15GS | 339 |
| VIEWSONIC 17PS | 649 |
| VIEWSONIC 17GS | 529 |
| VIEWSONIC 17EA | 579 |
| VIEWSONIC GT770 | 639 |
| VIEWSONIC PT775 | 689 |
| VIEWSONIC PT770 | 659 |
| VIEWSONIC PT813 | 1349 |
| VIEWSONIC P810 | 1249 |
| VIEWSONIC P815 | 1399 |
| VIEWSONIC G810 | 1099 |

### EPSON

| | |
|---|---|
| STYLUS COLOR 600 | 269 |
| STYLUS COLOR 800 | 379 |
| STYLUS COLOR 3000 | 1649 |
| EXPRESSION/636/EXEC | 749 |
| EXPRESSION/636/ART | 899 |
| EXPRESSION/636/PRO | 1199 |

### Intergo

| | |
|---|---|
| TWIN TURBO 8 MEG PCI | 449 |
| TWIN TURBO 4 MEG PCI | 299 |
| TWIN TURBO 2 MEG PCI | 199 |

### NEC

| | |
|---|---|
| NEC 15XV+ | 449 |
| NEC 17XV+ | 649 |
| NEC C500 15" | 429 |
| NEC C400 14" | 329 |
| NEC E500 15" | 389 |
| NEC E700 17" | 679 |
| NEC M750 17" | 879 |
| NEC E1100 | 1199 |
| NEC P1150 | 1299 |

### iomega

| | |
|---|---|
| ZIP DRIVE 100 MEG | 139 |
| JAZZ DRIVE 1 GIG | 369 |
| ZIP CART 10 PACK | 129 |
| JAZZ CART | 89 |

### GCC TECHNOLOGIES

| | |
|---|---|
| GCC ELITE 600ET (10PPM) | 899 |
| GCC ELITE XL-608 | 2199 |
| GCC ELITE XL-616 | 2399 |
| GCC ELITE XL-808 | 2699 |
| GCC ELITE XL-1208 | 3999 |

### RASTEROPS

| | |
|---|---|
| SUPERSCAN MC-6215 | 569 |
| SUPERSCAN MC-6315 | 679 |
| SUPERSCAN MC-7515 | 949 |
| SUPERSCAN MC-20" | 1169 |
| SUPERSCAN MC-801 | 1399 |
| SUPERSCAN MC-801-HR | 1649 |

### GLOBAL VILLAGE COMMUNICATION

| | |
|---|---|
| Global Village Plat 33.6 Voice | 89* |
| Global Village Gold II PCM 14.4 | 49 |
| Global Village Gold II 14.4EXT | 49 |
| Global Village 56.6 EXTERNAL | 169 |
| Global Village 56.6 PCMCIA | 239 |
| Global Cillage 56.6 ETH/PCM | 359 |

All prices are cash discounted. Prices subject to change without notice. Not responsible for types. An asteisk "*" denotes refurbished product.

DFI

20 " Sony Color
BLOWOUT MODEL!

Model GDM1960 SuperFine Pitch Trinitron Tube .28 DP

•1 Year Warranty
1024 x 768 Refurbished

•Tilt Swivel Base
Only *$649!*

We also carry 17" Sony Monitors as low as *$299*

Call for Details 800•390•7020

181 Salem Street, Malden, MA 02148

CIRCLE 414 ON READER SERVICE CARD

Macintosh Specialists

12X CDROM SCSI
$99 *external $129

System 8.0 Complete Upgrade
$52.99 Mac OS or 7.6 CD $19.99

HP 5MP (R) 600 dpi LaserJet
$549 *toner add $10

17" Color (R) Trinitron™ Blowout
$249 *Hi-Res $325

| | |
|---|---|
| Apple StyleWriter 1200 w/Ink (R) | 89.00 |
| Epson Stylus 600 (N) | 279.00 |
| Epson Stylus 800 (N) | 399.00 |
| Apple LaserWriter IInt (U) | 289.00 |
| HP LaserJet 5si w/toner (N) | 2149.00 |
| Ext. Hard Drive Enclosure w/cable(N) | 49.00 |
| 40MB 3.5" x 1", SCSI (N) | 25.00 |
| 2 GB 3.5" x 1",7200av, SCSI (R) | 199.00 |

| | |
|---|---|
| 20" Trinitron™ Monitor (R) | 649.00 |
| 17" PowerComputing MS (R) | 499.00 |
| 15" MultiScan Mtr, Black (N) | 249.00 |
| Apple 14" MultiScan Mtr (U) | 179.00 |
| Apple 13" RGB Trinitron Mtr (U) | 179.00 |
| *ALPS* Trackpad, Mac ADB (N) | 19.50 |
| ADB Mouse, Single Button, Mac (N) | 16.50 |
| Extended Keyboards, Mac ADB (N) | 39.00 |

PACKAGE DEALS
Color Monitor, Ext Keyboard, New Drive, New Mouse and SW1200 Ink-Jet Printer.

| | |
|---|---|
| Mac II 4/40 *PACKAGE* | 269.00 |
| Mac IIsi 5/160 *PACKAGE* | 369.00 |
| Mac IIci 4/160 *PACKAGE* | 469.00 |

BUY/SELL/LEASE
We accept...
School & Gov't POs • V/MC/AMEX/DISC
800•673•6227

PowerON computer services • 4323 Anthony Ct. #1 • Rocklin, CA 95677
www.poweron.net
*Prices subject to change without notice. *All Prices include 3% cash discount
(916) 652-1880 • (916) 652-1881 FAX Mon.-Sat. 10a-5p PST

CIRCLE 419 ON READER SERVICE CARD

USED MACINTOSH!

- We match buyers and sellers of used MAC equipment!
- All MAC models available; SE to POWER PC.
- All hardware is tested and includes a limited warranty.
- Qualifying School, Gov't and Fortune 1000 POs Welcome
- We also specialize in used trade-ins

The Computer Exchange

800-304-4639

www.compexch.com
Ph: 404-315-0897
Fax: 404-315-7840
2100 Cheshire Bridge Rd Ste E Atlanta, GA 30324

CIRCLE 438 ON READER SERVICE CARD

1-800-334-KIWI

Kiwi Computers • Save on refurbished Macs

Performas

| | |
|---|---|
| 630 12/1.2 Gig 4xCD | $449 |
| 6200/75 8/1 Gig 4xCD | $599 |
| 6300/100 16/1.2 Gig 4xCD 28.8 | $749 |
| 6360/160 16/1.2 Gig 8xCD 28.8 | $835 |
| 6400/180 and 6400/200 | Call |
| 5200/75, 5300/100, 5400/200 | Call |

Power Macs

| | |
|---|---|
| 7600/132 16/1.2 Gig 8xCD | $1475 |
| 8500/180 32/2 Gig 8xCD | $2099 |

Motorola Starmax

| | |
|---|---|
| 4000/160 604e Desktop 16/1.2 Gig 8xCD | $1049 |
| 4000/200 604e Minitower 32/2.5 Gig 8xCD | $1449 |

Memory

| | |
|---|---|
| 16mb 72 pin SIMM | $45 |
| 32mb 72 pin SIMM | $92 |
| 16mb, 32mb, 64mb 168 pin DIMM | Call |

Upgrades

| | |
|---|---|
| Performa 630 series to 6300/100mhz | $399 |
| Performa 630 series to 6320/120mhz | $499 |
| Performa 630 series to 6360/160mhz | $599 |
| Performa 6200 to 6360/160mhz | $425 |
| Performa 6300 to 6360/160mhz | $375 |
| Performa 6200 to 6400/200mhz | $675 |
| Performa 6300 to 6400/200mhz | $625 |

Monthly Specials

| | |
|---|---|
| Apple Design Keyboard | $35 |
| Apple Plaintalk Microphone | $12 |
| Apple manual inject 1.44 floppy | $49 |
| Apple auto inject 1.44 floppy | $79 |
| Performa 630 logic board | $125 |
| Performa 630/6200/6300 power supply | $69 |
| Apple TV/Video card for P630, 6200, 6300 | $85 |
| GV Platinum internal 28.8 Modem for P5200/6200 | $59 |
| Apple Laserwriter 16/600 | $1199 |

Visa/Mastercard/American Express No Surcharge.

Refurbished products have a 90 day warranty • Returns subject to a 15% restocking fee • Prices subject to change without notice.

Toll Free: 800-334-5494 International: 310-553-4507 Fax: 310-286-9667
Hours: Mon-Fri 8am to 6pm, Sat 9am to 2pm • Better Business Bureau Member
Kiwi Computers, P.O. Box 67381, Los Angeles, CA 90067

CIRCLE 420 ON READER SERVICE CARD

PACIFIC COMPUTER EXCHANGE

800.790.3881 ORDERS & PURCHASING INFO

Used Macs Priced to Move

We buy and sell used Macs!

Cash paid for your Mac via Fed Ex!

| | | | |
|---|---|---|---|
| 6300/100 16/1Gig CD | $799 | Color Classic | $499 |
| 7100/66 8/250 | $699 | Powerbook 190cs | $1099 |
| 6100/66 8/500 CD | $599 | PB 540c 12/320 19.2 modem | $1399 |
| Quadra 840AV | $599 | Powerbook 520 / 520c | $899 / $999 |
| Centris 650/660AV | $499 | Powerbook 180 / 180c | $799 / $899 |
| Quadra 650 | $599 | Powerbook 160/170 | $599 |
| Quadra 700 | $399 | Powerbook 145/150 | $499 |
| Quadra 610/630 | $429/469 | LaserWriter IIg | $599 |
| IIci/IIvx | $299 | LaserWriter IInt/ntx | $299/399 |
| IIsi/IIcx | $249 | HP DeskWriter | $159 |
| LC/LCII/LCIII | $199/249/299 | Apple StyleWriter 2400 | $179 |
| SE/SE30 | $199/349 | ImageWriter II | $159 |
| Classic/ClassicII | $199/299 | NEW MultiMedia Speakers | $39 |

SPECIAL!
Media Vision Refurbished 2X External CD ROM for Powerbooks
$ 79

NEW!!
14.4 Internal Modem for Powerbook 100 Series
$ 79

CIRCLE 434 ON READER SERVICE CARD

HAWKE BUSINESS SYSTEMS
A Division of the CPS Services Group
Flemington, NJ 08822

(800) 875-2610
Fax - (908) 782-7027
Email - MacHawke@AOL.COM

Specialist in Refurbished Macintosh Equipment

Visit Our New Web Site - www.MacHawke.com - for Full Listing

Systems

Classic 4/40 w/ K&M - $199.00
Classic II 4/80 w/ K&M $325.00
Se/30 8/80 w/ K&M - $325.00

Custom Color Packages

Mac IISi — Mac IICi
Lc III — Lc 630
Quadra 650 — Quadra 610
PM 6100/60 — PM 6205/ 75

All Color Packages include Apple Color Monitor, ExtKyb & Mouse

Service Parts

1.4 Meg Floppy Drive - $79.00
Se & Se/30 Power Sup $29.00
Mac II, IIx, IIFx P/S - $49.00
Mac Classic P/S - $69.00
Apple 8 bit Video Brd - $59.00
EtherNet - Nubus RJ45 - $39.00
Mac IISi Nubus Adpt - $49.00

Logic Board Exchange & Repair

6 Month Parts and Labor System Warranty

Peripherals

Hp DeskWriter - $79.00
StyleWriter II - $99.00
Stylewriter 1200 - $129.00
LaserWriter II Nt - $349.00
LaserWriter IIG - $499.00
LaserWriter Pro630 - $699.00

Apple Portrait Mon - $199.00
Apple Hi Res Color - $225.00
Apple 15" MultiScan $289.00
Apple 17" Multiscan $449.00
Apple 21" Color Mon - $999.00

CIRCLE 412 ON READER SERVICE CARD

# CALL THE MAC EXPERTS!

*Providing complete Macintosh solutions for graphics, pre-press, and video professionals*

**PACKAGE DEAL BLOWOUT! ORDER ONE OF THESE COMPLETE SYSTEMS TODAY, OR CUSTOMIZE IT YOUR WAY!**

**Package 62W981**

Factory Refurbished Performa 6220: 75 MHz w/**24** Mb RAM, 1 gig drive, TV capture card, modem, 15" color display, commercial surge protector. Only **$1088**, or just **$43 per month!**

**Package 64W981**

Factory Refurbished Performa 6400/200: 200 MHz w/**24** Mb RAM 2.4 gig drive, Geoport modem, commercial surge protector, 2 game CD set w/Descent, Blackthorn & more! Only **$1499** or just **$60 per month!**

Pictures may not match monitor in package

**Package 63W981**

Factory Refurbished Performa 6320: 120 MHz w/**24** Mb RAM, 1 gig drive, TV capture card, 28.8 modem, 15" color display, commercial surge protector. Only **$1288**, or just **$52 per month!**

**Package SM6W981**

SuperMac C600LT: 240 MHz w/**40** Mb RAM, 2 gig drive, 15" color display, Astra 600S scanner w/PhotoDeluxe & Photoshop 2.5LE, commercial surge protector. Only **$1799**, or just **$72 per month!**

**Package 65W981**

PowerMac 6500: 250 MHz w/**48** Mb RAM, 4 gig drive, 12x CD, 15" color display, Astra 600S scanner w/PhotoDeluxe & Photoshop 2.5LE, commercial surge protector, **$2488**, or just **$99 per month!**

**Package S9W981**

SuperMac S900/233 with **96*** Mb Ram, 4 gig drive, 12x CD-rom, int. Zip drive, 17" PowerMax Trinitron monitor, 8 Mb video card, commercial surge protector. Only **$3588**, or just **$137 per month!**

## PowerMax Trinitron™ Monitors

**Model PM15T** 25 mm dot pitch- up to 1280x1024 ..... **$359**
**Model PM17T** 25 mm dot pitch- up to 1280x1024 ..... **$649**
**Model PM17TE+** 25 mm dot pitch- up to 1600x1280 ..... **$849**
**Model PM20T** 30 mm dot pitch- up to 1600x1280 ..... **$1449**
**Model PM20T+** W/ 25 mm dot pitch! ..... **$1649**

PowerMax Trinitron™ monitors are designed specifically for the rigorous demands of the Macintosh. They ship complete with Mac-ready cables and adapters, a three year warranty, and our satisfaction guarantee: if the monitor is not just right, we'll replace it for you!

***MacUser Labs Said:***

**"Four Mice! A PowerMax Power Play" *and* "Not only do the PowerMax monitors display good-looking images, but (they) are affordably priced!" *and* "Nice price, nice image quality, nice controls – *nice monitor!*"**

## PowerMax External Hard Drives

We customize high-end arrays for all Macs!
•Atto •Micronet
•FWB •Optima

**12X External CD Rom** ..... **$149**
**24X External CD Rom** ..... **$179**
**External Jaz One Gig Removable** ..... **$349**
**2x6 CD Recorder w/Toast Software** ..... **$399**
**4x6 CD Recorder w/Toast Software** ..... **$569**
**External 1.0 Gig Seagate 5400 RPM** ..... **$279**
**External 2.0 Gig Seagate 5400 RPM** ..... **$309**
**External 2.0 Gig Quantum 5400 RPM** ..... **$319**
**External 3.2 Gig Quantum 5400 RPM** ..... **$399**
**External 4.3 Gig Micropolis 5400 RPM** ..... **$449**
**External 4.3 Gig Quantum 5400 RPM** ..... **$449**
**External 2.2 Gig Quantum 7200 RPM** ..... **$499**
**External 6.4 Gig Quantum 5400 RPM** ..... **$569**
**External 4.5 Gig Micropolis 7200 RPM** ..... **$699**
**External 4.5 Gig Seagate 7200 RPM** ..... **$819**
**External 4.5 Gig Seagate 10000 RPM** ..... **$899**
**External 8.7 Gig Micropolis 7200 RPM** ..... **$909**

### Why Buy From PowerMax?

- Most orders ship within 24 hours- even customized systems!
- We speak plain English; you'll talk to an informative, knowledgeable person with no technotalk or high pressure sales tactics!
- We offer flexible terms, and are experts on easy leasing!
- Aggressive purchasing and high volume means low, low pricing!
- We consult with you: we want to make sure what you buy is what you need. We'll probably ask you as many questions as you ask us!
- We're based in Portland, Oregon, where the people are friendly and polite, and where there is no sales tax!

**We're out of room! Call for the absolute lowest prices *and* immediate delivery on the following products:**

**Displays:** Apple, CTX, Hitachi, InFocus, LaCie, Mag, Magnavox, Mitsubishi, NEC, PowerMax, Radius, Samsung, Sony, ViewSonic
**RAM:** We stock lifetime-warranted RAM for every model of Mac made!
**Software:** Adobe, Acius, Claris, Deneba, MacroMedia, Microsoft, Mindscape, Netscape, Quark, Specular, Symantec and dozens more!
**Scanners:** Agfa, Apple, Epson, Hewlett Packard, LaCie, Linotype, Microtek, Nikon, Polaroid, Umax, Visioneer
**Printers:** Apple, Canon, DataProducts, Epson, Fargo, GCC, Hewlett Packard, Kodak, Lexmark, NewGen, QMS, Tektronix, Xante
**Storage:** Atto, Iomega, Kodak, LaCie, Micronet, NEC, Olympus, Optima, PowerMax, Quantum, Seagate, StreamLogic, Sony, Syquest
**Modems:** Boca, Dayna, Global Village, Hayes, Motorola, US Robotics
**Video:** ATI, Focus, IMS, Media 100, Miro, Number 9, Radius, TrueVision

**Ask about our complete Apple PowerPC systems *with monitor* for under $900!**

***Ready-Made Mac Systems***

**Performa 4400/200 16/1 Gig/8x** ..... **$1229**
**Performa 4400/200 PC Compatible** ..... **$2177**
**PowerMac 6500/225 32/3000/33.6 Mod** ..... **$1549**
**PowerMac 6500/250 32/4000/24x/Mod** ..... **$1955**
**PowerMac 6500/250 48/4000/12x/Zip/Mod** ..... **$1955**
**PowerMac 6500/275 32/4000/12x/Zip** ..... **$2365**
**PowerMac 6500/300 64/4000/12x/Modem** ..... **$2399**
**PowerMac 6500/275 32/6000/24x/Zip** ..... **$2445**
**PowerMac 6500/275 48/6000/24x/Zip** ..... **$2739**
**PowerMac 6500/300 64/4000/12x/Modem** ..... **$2399**
**PowerMac 6500/300 64/6000/24x/Zip** ..... **$2969**

***Customizable Mac Systems***

**PowerMac 7300/180 16 Ram/12x/KB** ..... **$1599**
**PowerMac 7300/200 16 Ram/12x/KB** ..... **$1749**
**PowerMac 8600/250 32 Ram/24x/0 Zip/KB** ..... **$2128**
**PowerMac 8600/250 32 Ram/24x/Zip/KB** ..... **$2238**
**PowerMac 7300/180 Pentium System** ..... **$2899**
**PowerMac 8600/300 32 Ram/24x/0 Zip/KB** ..... **$2599**
**PowerMac 8600/300 32 Ram/24x/Zip/KB** ..... **$2699**
**PowerMac 9600/200 32 Ram/12x/KB** ..... **$Call!**
**PowerMac 9600/233 32 Ram/12x/KB** ..... **$2648**
**PowerMac 9600/300 64 Ram/24x/KB/0 Zip** ..... **$3288**
**PowerMac 9600/300 64 Ram/24x/KB/Zip** ..... **$3388**

***Powerbooks! Powerbooks! Powerbooks! We stock all the 1400's, 2400's & 3400's at super low prices!***

***Umax SuperMac Compatibles***

**SuperMac C500/200 16/2 Gig/CD/ "Lite"** ..... **$995**
**SuperMac C500/200 16/2 Gig/CD/33.6 Mod** ..... **$1095**
**SuperMac C600/200 16/2 Gig/CD/33.6 Mod** ..... **$1195**
**SuperMac C600/240 24/2 Gig/CD/33.6 Lite** ..... **$1395**
**SuperMac C600x/240 32/3 Gig/12xCD/33.6** ..... **$1795**
**SuperMac C600x/280 32/4 Gig/12xCD/33.6** ..... **$2149**
**SuperMac J700 24/2 Gig/12xCD/33.6 Mod** ..... **$Call!**
**SuperMac S900 200 MHz - customize!** ..... **$2199**
**SuperMac S900 233 MHz - customize!** ..... **$2588**
**SuperMac S900 250 MHz - customize!** ..... **$3099**

POWER MAX
Knowledge is Power

# 800-613-2072

Local line: (503) 624-1827 • Fax (503) 624-1635
http://www.powermax.com • email: powermax@europa.com

*Prices subject to change without notice. Prices reflect cash discount. Credit card orders strictly verified against fraudulent use. With use of credit card as payment customer acknowledges that some products are subject to final sale.*

We accept educational and corporate purchase orders, and are experts in financing for virtually any size business!

DISCOVER NOVUS VISA MasterCard AMERICAN EXPRESS

CIRCLE 436 ON READER SERVICE CARD

SONY, FWB
VIEWSONIC
NEC, NEWER TECH
RADIUS, AGFA
SOFTWARE TOO!

MAC BASE

a division of BASEONE computers.

HP, IMS, ATI
MIRO, TARGA
EPSON, WACOM
TRUEVISION
MICROTEC

CUSTOM CONFIGURATIONS

LEASING PLANS AVAILABLE

# AWESOME NEW LOOK AND FEATURES!

# WWW.MACBASE.COM

Forget INACCURATE print ads! Get up to the second real time pricing.

## POWERMAC

CALL FOR NEW G3 MODELS!!!

| | | |
|---|---|---|
| 4400/200 | 16/1.2GB/CD | CALL |
| 4400/200 | SMALL BUSINESS | 1549 |
| 4400/200 | PC COMPATIBLE | 2049 |
| 5400/180 | 16/2G/8XCD | CALL |
| 6500/250 | 48/4GB/CD/ZIP/OFF | 1899 |
| 6500/250 | 32/4G/24X/ZIP/HM | 1899 |
| 6500/275 | 48/6G/24X/ZIP/OFF | 2599 |
| 6500/275 | 32/6G/24X/ZIP/HM | 2349 |
| 6500/275 | CREATIVE STUDIO | 2249 |
| 6500/300 | 64/6G/24X/ZIP/HM | 2789 |
| 7200/90 | 8/500/CD REF | 699 |
| 7300/180 | 16/2GB/CD | 1699 |
| 7300/200 | DOS 32M/16D/2GB | CALL |
| 7300/200 | 32/2GB/CD | 1879 |
| 8600/200 | 32/2GB/CD/ZIP | 2299 |
| 8600/250 | 32/4G/24XCD/ZIP | 2359 |
| 8600/300 | 32/4GB/24XCD | 2659 |
| 8600/300 | 32/4GB/24XCD/ZIP | 2759 |
| 9500/132 | 16/1GB/CD/VI REF | 1689 |
| 9600/200 | 0/0/CD | 1699 |
| 9600/200 | 32/4GB/CD | 2399 |
| 9600/233 | 32/4GB/CD | 2759 |
| 9600/300 | 64/4GB/24XCD | 3299 |
| 9600/300 | 64/4GB/24XCD/ZIP | 3399 |
| 9600/350 | 64/4GB/24XCD | CALL |
| 9600/350 | 64/4GB/24XCD/ZIP | CALL |

CALL FOR PRICES ON MEMORY ADDONS, HD UPGRADES, AND MORE.

## SOFTWARE

| | |
|---|---|
| ADOBE PHOTOSHOP 4.0 | 379 |
| ADOBE ILLUSTRATOR 7.0 | 319 |
| ADOBE PAGEMAKER | 379 |
| QUICKEN 7.0 | 29 |
| MACROMEDIA FREEHAND | 329 |
| MACROMEDIA DIRECTOR 5.0 | 759 |
| MICROSOFT OFFICE | 249 |
| QUARK EXPRESS | 629 |
| APPLE MAGIC COLLECTION CD | 49 |

## PERFORMA

| | | |
|---|---|---|
| 6200 CD | 8/1GB/CD REF | 599 |
| 6360/160 | 16/1.2GB/CD/REF | 999 |
| 6360/160 | 16/1.2GB/CD | CALL |
| 6400/200 | 16/2.4GB/CD | 1299 |
| 6400/200 | VIDEO EDITION | CALL |
| 6200 14.4 MODEM INTERNAL | | 20 |

CALL FOR MEMORY UPGRADES, ETC.

## PRINTERS

| | |
|---|---|
| Apple SW 2200 /2500 | 289/CALL |
| SW 4100/4500/6500 | 249/349/479 |
| Apple LW 12/640 | 1149 |
| Apple LW 16/600 REF | 1159 |
| Apple LW 16/600 | 1489 |
| NEW!! Apple LW 8500/20 (20PPM) | 2499 |
| Apple LW COLOR 12/660 | 3799 |
| EPSON STYLUS 600/800 | 289/389 |
| EPSON STYLUS 1520/PROXL | 789/1359 |
| HP 870CXI / 6MP | 379/899 |
| HP 5M / 4MV | 1549 / CALL |

## MONITORS

| | |
|---|---|
| Apple 15" / 15AV | 299/369 |
| Apple 1705 / 1710 | 529/699 |
| Apple 1710AV 17" | 799 |
| AppleVision 750 / 750AV | 799/949 |
| Apple 850 20" / 850AV | 1479/1799 |
| NEC C400/C500/M700 | 279/349/759 |
| NEC P1150 20" | 1689 |
| Sony 100SF/200SF | 369/699 |
| Sony 300 SFT | 1299 |
| VIEWSONIC 17PS | 739 |
| VIEWSONIC GT800 | 1189 |
| VIEWSONIC P810 | 1399 |
| VIEWSONIC PT770 | 739 |
| VIEWSONIC G810 | 1249 |
| POWER 17 INCH REF | 499 |

## POWERBOOK

| | | |
|---|---|---|
| DUO 2300C | 8/750 REF | 989 |
| DUO 2300C | 8/750 | 1099 |
| DUO 2300C | 20/1GB/MOD/REF | 1349 |
| DUO 2400C | 16/1.3G | 2979 |
| DUO DOCK II PLUS | | 449 |
| 1400CS/133 | 16/1.3GB/CD | 1899 |
| 1400C/166 | 16/1GB/CD | 2489 |
| 3400C/180 | 16/1.3GB/6XCD | 2799 |
| 3400C/180 | 16/1.3GB/12XCD | 2959 |
| 3400C/200 | 16/2GB/6XCD | 3279 |
| 3400C/200 | 16/2G/12X/NOMD | 3199 |
| 3400C/200 | 16/2G/12XCD | 3499 |
| 3400C/240 | 16/3G/12X/NOMD | 3999 |
| 3400C/240 | 16/3G/12XCD | 4099 |
| ACTION 28.8 PCMCIA | | 129 |
| ACTION 33.6 PCMCIA | | 149 |
| APPLE CARRYING CASE | | 19 |
| GLOBAL VILLAGE 56.6K PCMCIA | | 259 |

## STORAGE

| | | |
|---|---|---|
| APPLE | 4GB HD 3.5 SCSI | 429 |
| EZ QUEST | JAZ EXT. W/CART | 349 |
| EZ QUEST | JAZ INT. W/CART | 309 |
| EZ QUEST | JAZ & Y4X6 CDR | 599 |
| IOMEGA | JAZ DRIVE | 379 |
| IOMEGA | ZIP DRIVE | 149 |
| IOMEGA | ZIP DR. INT. | 129 |
| IOMEGA | ZIP CART | 12 |
| IOMEGA | JAZ CART | 79 |
| IOMEGA | SCSI TO PC CONNECTOR | 19 |
| QUANTUM | 2.1GB HD 3.5 SCSI | 249 |
| QUANTUM | 4.3GB HD 3.5 SCSI | 399 |
| QUANTUM | 6GB HD 3.5 SCSI | 459 |
| QUANTUM | 9.1GB ATLAS II | 999 |
| SEAGATE | 4.5GB CHEETAH | 799 |
| SEAGATE | 9.1GB CHEETAH | 1699 |
| SEAGATE | 2.5GB BARRACUDA | 429 |
| SEAGATE | 4.5GB BARRACUDA | 799 |
| SEAGATE | 9.1GB BARRACUDA | 1099 |
| SEAGATE | 23GB ELITE | 2599 |
| EXT. HD | CASE | 59 |

## WORKGROUP SERVER

CALL ABOUT OUR HUBS, & ETHERNET

| | | |
|---|---|---|
| 7350/180 | 48/4GB/CD | 2499 |
| 7350/180 | 48/4GB/CD/WEB | 2899 |
| 7350/180 | 48/4GB/CD/A.S. | 3059 |
| 9650/350 | 16/2X4GB UW/24X | 6499 |
| 9650/350 | 16/2X4GB UW/CD/AS | 6899 |
| 9650/350 | 16/2X4 UW/CD/INT | 6699 |

## SCANNERS

| | |
|---|---|
| AGFA ARCUS II TRANS & PHOTO | $1579 |
| STUDIOSTAR | 829 |
| STUDIOSTAR LE | 719 |
| SNAPSCAN 300 & 600 | 329/399 |
| EPSON EXPRESSION 636 EXEC | 749 |
| EPSON EXPRESSION 636 ART | 929 |
| EPSON EXPRESSION 636 PRO | 1299 |
| MICROTEK SCANMAKER E3 | 219 |
| MICROTEK SCANMAKER E6 | 299 |
| MICROTEK SCANMAKER E6 PRO | 1299 |
| MICROTEK SCANMAKER III | 1349 |
| NIKON COOLSCAN 20E | 829 |
| NIKON SUPERCOOL SCAN | 1629 |
| UMAX ASTRA 600S | 195 |
| UMAX ASTRA 1200S | 389 |
| POWERLOOK II PRO | 1349 |

## VIDEO CARDS

| | |
|---|---|
| ATI XCLAIM 2 MB | 219 |
| ATI XCLAIM 4 MB | 309 |
| ATI TV TUNER | 99 |
| ATI XCLAIM 3D 8 MB | 329 |
| IMS TWIN TURBO 8 MB | 459 |
| IMS TWIN TURBO 4 MB | 229 |
| IMS TWIN TURBO 2 MB | 179 |

We carry the full line of 3D & Photoshop Accelerated Graphics Cards by Radius.

# Real Prices! Real Products! Real People.

# 800-951-1230

Int'l (714) 428-0777 University, School, Government & Fortune 1000 P.O.'s Accepted! FAX (714) 428-0778

FedEx. We ship Worldwide!

Dealers inquiries welcome. Returns subject to restocking fee. Prices reflect C.O.D. or CASH and are subject to change without notice. P.O.'s subject to approval.

CIRCLE 422 ON READER SERVICE CARD

800-345-1234 DATA www.datamicro.com

Sales:(310)-398-3300 Micro Computer Inc. Fax:(310)-391-2488

3847 Grandview Blvd. Los Angeles, CA 90066

Dealers & International Sales Welcome e-mail:datamicro@earthlink.com

**PowerMacs**

| | Sale | Lease |
|---|---|---|
| 6100/66 8/500/CD | $649 | 18 |
| 6100/DOS 16/500/CD | $849 | 23 |
| 4400/200 16/2GB/CD | $1085 | 37 |
| 7200/120 16/1GB/CD | $1095 | 30 |
| 7300/180 16/2GB/CD | $1785 | 48 |
| 7300/200 32/2GB/CD | $1849 | 58 |
| 7600/132 16/1GB/CD | $1385 | 41 |
| 8500 & 9500 Series | | CALL |
| 8600/200 32/2GB/CD | $2469 | 71 |
| 9600/MP 32/4GB/CD | $3175 | 99 |
| 9600/233 32/4GB/CD | $2749 | 96 |
| 9600/300 64/4GB/CD | $3149 | 123 |
| 9600/350 64/4GB/CD/Zip | $4749 | 143 |

**PowerBooks**

| | |
|---|---|
| 1400cs/117 12/750 | $1499 |
| 1400cs/117 16/750/CD | $1749 |
| 1400c/117 16/1GB/CD | $2295 |
| 1400c/133 16/1GB/CD | $2395 |
| 2300c 8/750 | $995 |
| 2300c 20/1GB/Modem | $1389 |
| 2400c/180 16/2GB | $2489 |
| 3400c/180 16/1GB/CD | $2789 |
| 3400c/200 16/2GB/CD | $2879 |
| 3400c/240 16/3GB/CD | $3789 |

Call for Software & Accessories not listed

**Performas**

| | |
|---|---|
| 6116 8/700/CD | $695 |
| 6116/DOS 16/700/CD | $895 |
| 5200 8/500/CD/15" | $795 |
| 6200 8/1GB/CD | $649 |
| 6360 16/1GB/CD | $895 |
| 6400/180 16/1GB/CD | $969 |
| 6400/200 32/2.4GB/CD | $1095 |

**Monitors**

| | |
|---|---|
| MultiScan 14" | $229 |
| MultiScan 15" | $299 |
| 1705 (17") | $599 |
| MultiScan 20" | $1475 |
| radius 15" Grayscale | $199 |
| Pivot 15" Grayscale | $295 |
| 20" Grayscale | $695 |
| 17" Color | $645 |
| IntelliColor 20" | $1099 |
| Precision 21" Color | $1495 |

GCC TECHNOLOGIES ATI LaserMaster QMS Microtek DayStar Products in stock. Call for Best Price.

**MOTOROLA StarMax**

| | |
|---|---|
| 4000/200 32/2.5GB/CD | $1649 |
| 5000/275 32/4.3GB/CD | $2195 |
| 5000/300 32/4.3GB/CD | $2349 |
| 5500/200 32/4.3GB/CD | $2595 |
| 6000Pro/266 32/4.3GB/CD/Zip | $4149 |

**UMAX SuperMac**

| | |
|---|---|
| 500/600/700 Series | CALL |
| S900/200 32/2GB/CD/MP | $1899 |
| S900/225 32/2GB/CD | $1999 |
| S900/233 32/2GB/CD | $2189 |
| S900/250 32/2GB/CD/Zip | $3089 |

**Printers**

| | |
|---|---|
| LaserWriter 16/600 | $1995 |
| LaserWriter 12/660 | $3999 |
| LaserWriter 12/640 | $1399 |
| LaserWriter 360 | $1249 |
| StyleWriters | Lowest Price. |
| HEWLETT PACKARD LJ. 5SIMX | $3495 |
| LaserJet 5M | $1495 |

**Scanners**

| | |
|---|---|
| Agfa Arcus II | $1475 |
| Agfa Studio Star LE | $689 |
| UMAX PowerLook II | $1249 |
| EPSON Stylus 3000 | $1649 |

**DIGITAL**

| | |
|---|---|
| Media 100qx | $2195 |
| Bravada 1000 | $629 |
| Targa 1000PCI | $1789 |
| Targa 2000PCI | $2698 |
| IX Micro Twin Turbo SMB | $595 |
| Kodak DC 25 | $459 |
| Kodak DC 50 | $859 |
| Apex 4.6 Optical Drive | $1685 |
| Raid Array Hard Disks | CALL |

We Specialize in Business Leasing

Prices are subject to change without notice!

Government, Universities & Corporations P.O.'s are accepted

WE GUARANTEE THE BEST PRICES!

MediaGuide

Prices Listed Reflect a 3% Cash Discount

(800) 463-0686 BUY/SELL/TRADE (800) 463-0686

| | | | |
|---|---|---|---|
| Mac Plus 1/0 | $59 | SE 4/40 | $79 |
| SE/30 8/40 | $149 | Classic 4/40 | $119 |
| Mac II 4/40/Video | $69 | LC 4/40 | $119 |
| IIcx 8/40/Video | $99 | IIsi 5/40 | $99 |
| IIci 8/80 | $149 | IIx 8/80/Video | $119 |
| Mac IIfx 8/160 | $199 | IIvx 8/160 | $179 |
| Q605 8/160 | $349 | Q610 16/500 | $399 |
| Q630 16/250 | $399 | C650 16/230 | $399 |
| Q650 16/230 | $449 | Q700 8/230 | $399 |
| Q800 16/230 | $479 | Q900 8/230 | $499 |
| Quadra 660AV 16/230/CD | | | $499 |
| Quadra 840AV 16/230/CD | | | $649 |
| 6100/60 8/230/CD | | | $549 |
| 6100/66 8/230/CD | | | $599 |
| 7100/66 8/230/CD | | | $649 |
| 7100/80 8/230/CD | | | $699 |
| 8100/80 8/500/CD | | | $799 |
| 7200/75 8/500/CD | | | $649 |
| 7200/90 8/500/CD | | | $749 |
| 7500/100 16/1gig/CD | | | $1199 |
| Other Power Macs in stock | | | CALL!! |
| PB 140 4/40 | $299 | PB 145 8/40 | $399 |
| PB 170 8/40 | $499 | PB 160 8/80/14.4 | $529 |
| Powerbook 165 14/160/14.4 | | | $599 |
| Powerbook 180 12/120/14.4 | | | $699 |
| Powerbook 180c 10/240/14.4 | | | $899 |

| | |
|---|---|
| Duo 230 12/120/14.4 | $499 |
| Duo 270c 12/240/14.4 | $699 |
| Duo 280 12/120/14.4 | $649 |
| Duo 280c 24/320/14.4 | $799 |
| Apple Duo Dock II | $299 |
| Powerbook 190 8/500 | $799 |
| Powerbook 520 12/160/19.2 | $799 |
| Powerbook 520c 12/160/19.2 | $899 |
| Powerbook 540c 12/320/19.2 | $1099 |
| Powerbook 1400-series | BEST PRICES! |
| Powerbook 5300-series | LOWEST! |
| Apple 12" Mono | $89 |
| Apple 12" RGB | $119 |
| Apple 13" RGB | $149 |
| Apple 14" | $179 |
| Apple 15" MS | $299 |
| Apple 16" RGB | $399 |
| Apple 17" MS | $499 |
| Apple 20" MS | $899 |
| Assorted 20" Color monitors | from $399 |
| Imagewriter II | $99 |
| Laserwriter | $199 |
| Laserwriter IInt | $199 |
| LW IIntx | $249 |
| Laserwriter IIf | $299 |
| Laserwriter IIg | $599 |
| LW Pro 630 | $699 |
| LW 630 Env. feeder | $89 |
| Imagewriter LQ | $99 |
| Dye-Sub printers | $899 |
| External hard drive case w/cable | $29 |
| Seagate 2 gig int. hard drive (8.5ms) | $279 |
| New Apple 8x CD-ROM | int. $99 / ext. $149 |
| Apple Extended Keyboard II | $39 |
| HDI45 video cable for 6100/7100/8100 | $25 |

• PARTS 'N MORE •

Logic boards:

| | | | |
|---|---|---|---|
| Plus | $29 | SE 800K | $29 |
| SE FDHD | $39 | Classic | $59 |
| SE/30 | $79 | Mac II | $29 |
| IIcx/IIsi | $49 | IIci | $89 |
| IIx | $49 | IIfx | $99 |

Power supplies:

| | | | |
|---|---|---|---|
| Mac II, IIx, IIfx | $29 | LC, 475, 605 | $29 |
| IIcx, IIci, 650, 7100 | $49 | IIsi | $49 |
| SE, SE/30 | $29 | SE, SE/30 analog brd | $29 |
| Mac Plus analog board | | | $39 |

Nuts 'n Gum...together at last!!

| | | | |
|---|---|---|---|
| 8-bit NuBus video card | $39 | 24-bit | $99 |
| NuBus ethernet | $29 | IIsi NuBus adapt | $29 |
| IIsi or SE/30 ethernet card | | | $39 |
| NEW ADB mouse | | | $25 |
| NEW Global Village 14.4 PCMCIA | | | $59 |
| Digital video in/out cards | | from | $199 |
| VideoVision Studio (NuBus) | | | $799 |
| 800k floppy | $25 | 800k external | $39 |

1.44 floppy drives from only $69

| | | | |
|---|---|---|---|
| Powerbook parts & much more | | | CALL! |
| 1MB VRAM | $21 | SIMMs & DIMMs | CALL! |
| 1mb 30-pin SIMMs | $5 | 4mb 30-pin | $20 |
| Astound 1.0 | $25 | MS Office 4.2.1 | $149 |
| OmniPage Pro 5.0 | $79 | MS Word 5.0 | $39 |
| MS Excel 4.0 | $49 | Other software | CALL! |

"SPICIER-HOT" BUNDLE SPECIALS:

Mac IIci 8/80, Apple 13" RGB, Ext. KB, mouse...$299

Mac IIvx 8/80, Apple 13" RGB, Ext. KB, mouse...$329

Mac IIsi 5/80, Apple 13" RGB, Ext. KB, mouse...$249

Mac IIcx 8/80, Apple 13" RGB, Ext. KB, mouse...$249

BUNDLE-ICIOUS! *Add a 13" RGB and ext. keyboard to any CPU for only $149*

Santa Loves Ya..ho ho ho:

Stylewriter 1200 $69

Plaintalk microphone $7

NEW Global Village 14.4 internal for PowerBk 1xx $39

256K L2 cache for 6100/7100 $12

120Mhz 604 daughtercard for 7500's $25

Refurbished Equipment has a 90 day warranty

Fax: (303) 788-0651 • Local & Int'l: (303) 788-1400

Hours: M-F 8-6, SAT 10-5 MST • 777 N. Santa Fe Dr., Denver, CO 80204

Sales@MediaGuide.com • Purchasing@MediaGuide.com • http://www.mediaguide.com

Prices & Availability Subject to Change

# Macintosh Systems & Peripherals

## Guaranteed Low Prices • Huge Inventory

**Celebrating Over 10 Years in Business at the Same Location**

ABOVE 5% COST

## ** SOFTWARE **

Full Retail Versions • *Not Upgrades*

| | |
|---|---|
| Adobe Pagemaker 6.5 | 289 |
| Adobe Illustrator 7.0 | 299 |
| Adobe PhotoShop 4.0 | 325 |
| Microsoft Office 4.21 | 259 |
| MacroMedia Freehand 7.0 | 299 |

## Storage Products

| | |
|---|---|
| Iomega Zip Drive | 139 |
| Iomega Jazz Drive 1GB | 375 |
| Iomega Jazz Drive 2GB | 579 |
| Syquest Syjet 1.5 GB | 379 |
| La Cie 2.1 External | 349 |
| La Cie 4.3 AV External | 499 |
| Seagate Hawk 2 GB | 249 |
| Quantum 4.5 Atlas | 649 |
| Seagate 9 GB Barricuda | 1199 |
| La Cie 9GB AV External | 1199 |
| LaCie 18GB Raid Array | 2950 |
| Atto Express PCI Wide | 359 |
| JackHammer PCI Wide | 379 |

## PRINTERS

| | |
|---|---|
| Apple SW 4100 / 4500 | 239 /335 |
| Apple SW 6500 | 459 |
| Apple LW 4-600 | 745 |
| Apple LW 12-640 | 1275 |
| Apple LW 8500 (20 ppm) | 2225 |
| Apple Color LW 12-660 | 5450 |
| Epson Color Stylus 600 | 285 |
| Epson Color Stylus 800 | 399 |
| Epson Color Stylus 1520 | 739 |
| Epson Color Stylus 3000 | 1769 |
| Epson Color Stylus Pro XL | 1389 |
| Hewlett Packard 870CSI | 389 |
| Hewlett Packard 6MP | 885 |
| Hewlett Packard 5M | 1555 |
| Hewlett Packard 4MV | 2495 |
| Tektronix Phaser 140/ 350 | 925/ 2765 |
| Tektronix Phaser 550 | 8099 |

## Video / Graphics

| | |
|---|---|
| TwinTurbo - 4 / 8 Meg | 299 / 499 |
| #9 Imagine 128 8 Meg | 749 |
| Xclaim VR - 2 / 4 Meg | 199 / 299 |
| ThunderPower 30/1600 | 829 |
| Miromotion DC20 | 599 |
| MiroMotion DC30 | 675 |
| Targa 1000 / 2000 | 1575 / 2985 |
| Targa 2000 PRO | 3375 |
| VideoVision Studio 2.0 | 2299 |

## RCD & Optical Drives

| | |
|---|---|
| Fujitsu Dynamo 640 | 489 |
| FWB Hammer Dat 8000 | 1199 |
| Olympus 2.6 Power MO | 1699 |
| Pinnacle Vertex 2.6 | 995 |
| Pinnacle Apex 4.6 | 1425 |
| VST 230 MB PB1400 | 425 |
| Yamaha CD 4X6 w/Toast | 699 |

## POWERBOOKS

| | |
|---|---|
| *Targus Carry Case* | *$39* |
| *33.6 Fax Modem Card* | *$149* |
| *33.6 Modem/Ether Card* | *$299* |
| *10BT Ethernet Card* | *$99* |
| *56k Fax Modem Card* | *$265* |
| *56k Modem/Ether Card* | *$345* |

| | |
|---|---|
| 1400cs/133 16- 1.3 GB 8xCD | 1739 |
| 1400c/ 133 16- 1.3 GB 8xCD | 2348 |
| 1400c/ 166 16- 2 GB 8xCD | 2609 |
| 2400c/ 180 16- 1.3 GB | 2650 |
| 3400c/ 180 16- 1.3 GB 12xCD | 2783 |
| 3400c/ 200 16- 2 GB 12xCD | 3305 |
| 3400c/ 240 16- 3 GB 12xCD | 3914 |

## Scanners & Cameras

| | |
|---|---|
| Apple Color Quick Cam 200 | 585 |
| Agfa SnapScan 3D | 299 |
| Agfa Arcus II w/transp. | 1585 |
| Epson Express 636 Exec | 849 |
| Epson Expression 636 Pro | 1239 |
| Hewlett Packard ScanJet 4C | 699 |
| Kodak DC 25 / 50 /120 | 389/649/939 |
| Linotype LinoColor Jade | 499 |
| Microtek ScanMaker E3 / E6 | 185/329 |
| Microtek ScanMaker III | 1195 |
| Nikon CoolScan II | 859 |
| Olympus D200L | 549 |
| SprintScan 35LE/35ES/35+ | 759/1429/1765 |
| Umax Astra 600S / 1200S | 185/399 |
| Umax 1200S Pro with PS 4.0 | 589 |
| Umax Powerlook II Pro | 1249 |
| Umax Powerlook 2000 | 3799 |

## MONITORS

*Apple • Hitachi • NEC*
*Radius • RasterOps • Sony*
*Viewsonic • CTX • Samsung*
*Phillips • MAG • Nanao*

| | |
|---|---|
| Apple 15" AV Display | 369 |
| Apple 17" 1705 / 720 | 525 / 599 |
| Apple 17" 750 / 750AV | 789 / 875 |
| Apple 20" 850 / 850AV | 1649 / 1775 |
| Nec 15" M500 | 379 |
| Nec 17" M700 | 745 |
| Nec 21" P1150 | 1499 |
| Radius 17" PressView 17SR | 1695 |
| Radius 21" PressView 21SR | 2899 |
| RasterOps 21" MC801HR | 1739 |
| Sony 15" 100SX / 100SF | 310 / 369 |
| Sony 17" 200SX / 200SF | 589 / 635 |
| Sony 20" 300SFT | 1325 |
| ViewSonic 17" EA / GA | 599 / 675 |
| ViewSonic 17" PT 770 / 775 | 689 / 789 |
| ViewSonic 21" GT810 / PT815 | 1455 / 1649 |

## POWERMACS

Custom Configurations Available

All Systems are New with Full Manufacturer Warranty

We will Match or Beat any verified Competitors Price

| | |
|---|---|
| 6360/160, 16-1.2G - 8x - Mdm | 799 |
| 6400/200, 16-2.4G - 8x - Mdm | 1125 |
| 4400/200, 16-2 GB - 12x - Mdm | 1185 |
| 4400/200, 32-2 GB - 12x - Mdm | 1285 |
| 4400/200, PC Comp 32-2 G -12x | 2087 |
| 6500/225, 32-3 GB -12x - Mdm | 1399 |
| 6500/250, 32-4 GB -12x - Mdm-Zip | 1545 |
| 6500/250, 32-4 GB -24x- 56k -Zip | 1739 |
| 6500/275, *Creative Studio Bundle* | 2174 |
| 6500/275, 32-6-24xCD-56k-Zip | 2174 |
| 6500/275, 48-6-24xCD-56k-Zip | 2435 |
| 6500/300, 64-4-12xCD-Mdm- Zip | 2345 |
| 6500/300, 64-6-24xCD-56k-Zip | 2599 |
| 7300/180, 16-2GB - 12xCD | 1739 |
| 7300/200, 32-2GB - 12xCD | 1899 |
| 8600/250, 32-4GB - 24xCD - Zip | 2261 |
| 8600/300, 32-4GB - 24xCD - Zip | 2696 |
| 9600/200 MP, 32-4GB -12xCD | 2799 |
| 9600/300, 0 - 0 - 24xCD | 2425 |
| 9600/300, 64-4GB - 24xCD - Zip | 3305 |
| 9600/350, 64-4GB - 24xCD - Zip | 4697 |

## New G3 PowerMac's

| | |
|---|---|
| 7700/200, PPC 750 32-2G - 24x | 1825 |
| 7700/233, PPC 750 32-4G - 24x | 2465 |
| 7700/266, PPC 750 32-6G - 24x | 2999 |

## MOTOROLA CLEARANCE SALE

CALL CALL

## MEMORY UPGRADES

*TECHWORKS - LIFE TIME WARRANTY*

| | |
|---|---|
| 8 Meg Dimms & Simms 60ns | 45 |
| 16 Meg Dimms & Simms 60ns | 89 |
| 32 Meg Dimms & Simms 60ns | 115 |
| 64 Meg Dimms | 219 |
| PB 1400 8 / 16 / 24 | 75 / 99 / 185 |
| PB 1400 32 / 48 Modules | 199 / 355 |
| PB 2400 16 / 32 Modules | 119 / 199 |
| PB 3400 16 / 32 / 48 | 99 / 195 / 315 |
| PB 3400 64 / 128 Modules | 389 / 735 |

**Call For Unlisted Items Over 2500 Macintosh Products Available**

## Leasing

On Approved Credit to...

**Business and Individuals**

### *Small Business Internet Solution*

only $1625 — $59 per mo.

*4400/200 32 Megs , 2 Gig*
*12xCD , 56k Modem*
*15" AV Display, Ext. Keyboard & Mouse*
*Microsoft Office, Web Workshop, Business Phone*
*56k Fax Modem, Internet Connection Kit*
*Netscape 3.0, Claris E-Mail Software, AOL*

### *Home-Work and Fun!!*

$2015 — $68 per mo.

*6500/225 32 Megs Ram, 3G HD, 12xCD*
*15" AV Display, Ext. Keyboard & Mouse*
*SW 4100 Color Printer, 33.6 Fax Modem*
*Internet Connection Kit, Quicken, Claris Works*
*Touchbase / Date Book Pro, Encyclopedia*
*3-D Atlas, Dictionary, Mayo Family Health*
*Clip Art, 3-D Accelerated Games, and much more!*

### *Graphics Station*

*Speed Demon w/Adobe Bundle*

$4299 — $145 per mo.

*8600/300 64 Megs Ram, 1 MB L2 Cache*
*24xCD Player, ATI 4 MB Accellerated Video*
*Iomega Zip Drive , Apple 17" Display*
*Apple Extended Keyboard & Mouse*
*Adobe PhotoShop 4.0, Adobe PageMaker 6.5*
*Adobe Illustrator 7.0*

*Cyber Shop & Product Info at...*

**www.digicore.com**

# DigiCore

*Order Toll Free*

*All Major Credit Cards-*
*Corporate & School PO's-*
*Wire Transfer & C.O.D.'s-*

**800-858-4622**

15500 ERWIN ST, VAN NUYS CA 91411

*International & Dealers*
**818-785-2800**
*24 Hour Fax*
**818-785-3100**

| 36 Month Lease w/Purchase Option | | | | |
|---|---|---|---|---|
| $2500 | $4000 | $8000 | $15,000 | $25,000 |
| $85 | $136 | $267 | $496 | $825 |

Sale Price / Your Cost

| GE *ON-SITE WARRANTY* 2nd - 4th Year | | | |
|---|---|---|---|
| $700 - $1200 | $1201 - $2000 | $3001 - $4000 | $4001 - $5000 |
| $129 | $159 | $219 | $249 |

• Lease rates listed are for businesses - call for Individual rates • Leasing is O.A.C. • Prices listed are C.O.D. • Pricing & Availability subject to change • Call for best Price • Returns Require DigiCore RMA •

CIRCLE 415 ON READER SERVICE CARD

# YOUR BEST BUY

The Macintosh Authority
MacNet

VISIT US ON THE NET AT **www.applemacnet.com**

1-CONSULT UPDATED PRICES! 2-ONLINE CATALOG ,OFFERS & ORDERING 3-CREDIT CARDS ,C.O.D. , P.O. & LEASING
4-CUSTOMER SERVICE 5-WORLWIDE SHIPPING ON THE FLY 6-SCHOOLS , UNIVERSITIES & US GOVERN. WELCOME

## Power Macs

| | |
|---|---|
| 4400 200MHz/16MB/2GB/8XCD | $999.00 |
| 7300 200MHz/16MB/2GB/12XCD | $1,789.00 |
| 7300PC 200MHz/16MB/2.0GB/8xCD | $2,599.00 |
| 8600 250MHz/32MB/4GB/12xCD/ZIP | $2,399.00 |
| 8600 300MHz/64MB/4GB/Zip Drive/24XCD | $2,699.00 |
| 9600 300MHz/64MB/4GB/24XCD/ | $3,299.00 |

**Buy a PowerMac and Add the Office Solution!**

**Power Mac 6500 series**

| | |
|---|---|
| 6500 225MHz/32MB/3GB/12XCD/33.6Mdm | $1,499.00 |
| 6500 250MHz/32MB/4GB/12XCD/33.6Mdm/Zip drive | $1,759.00 |
| 6500 250MHz/48MB/4GB/12XCD/33.6Mdm/Zip(Office) | $2,099.00 |
| 6500 275MHz/32MB/4GB/12XCD/33.6Modem/Avid cinema/ | $2,399.00 |
| 6500 300MHz/64MB/4GB/12XCD/33.6Mdm/Zip drive | $2,399.00 |

**PowerBooks**

| | |
|---|---|
| 1400cs • 133MHz16MB/1.3GB/8XCD/128 k L2 | $1,899 |
| 1400c • 133MHz16MB/2GB/8XCD/128 k L2 | $2,499 |
| 1400c • 166MHz16MB/2GB/8XCD/128 k L2 | $2,389 |
| 2400c • 180MHz16MB/2GB/8XCD/128 k L2 | $2,999 |
| 3400c • 200MHz16MB/2GB/12XCD/33.6 modem | $3,099 |
| 3400c • 240MHz16MB/3GB/12XCD/33.6 modem | $3,699 |

**Apple Servers**

1-AppleShare IP 5.0:advanced server soft. that enables you to incorporate a server into a Intranet easily to take full advantage of Internet technology & more

| | Applic. Solution | ¥ Internet Solution | 1-Apple Share Solution |
|---|---|---|---|
| 7250 120MHz/16MB/2GB/8XCD | $1,399.00 | $1,699.00 | |
| 7350 180MHz/48MB/4GB/12XCD | $2,499.00 | $2,799.00 | $3,199.00 |
| 9650 233MHz/64MB/8GB/12XCD | $3,999.00 | $4,599.00 | $5,299.00 |

¥Internet Solution Includes:Claris Home Page,Open Door LogDoor,Apple MacDNS, NetCloak,Netscape,BBEdit, WebSTAR/SSL,GO liveCyberStudio,Butler SQL & more

## UMAX COMPUTERS

| | |
|---|---|
| C600180MHz/16MB/1GB/8XCD/33.6 | $1009 |
| C600L180MHz/16MB/1.2GB HD/8XCD | $1029 |
| C600L200MHz/16MB/2.1GB HD/8XCD | $1099 |
| C600L240MHz/24MB/2.1GB HD/8XCD | $1449 |
| C600L200MHz/32MB/2.1GB HD/12XCD | $1599 |
| C600L240MHz/32MB/2.1GB HD/12XCD | $1699 |
| C600L280MHz/32MB/4GB HD/12XCD | $2099 |
| C600X 240MHz/32MB/3GB HD12X/33.6 | $1799 |
| C600X 280MHz/32MB/4GB HD/12X/33.6 | $2099 |
| J700 180MHz/24MB/2.1GB HD/CD/33.6 | $1599 |
| S900 200MHz/32MB/2.1GB HD/CD/33.6 | $2399 |
| S900 233MHz/32MB/2.1GB HD/CD/33.6 | $2799 |
| S900 250MHz/32MB/2.1GB HD/CD/33.6 | $3199 |
| S900/DP 250MHz/64MB/4GB HD/CD/ | $5999 |

Call for latest prices and promo

## Memory

**Super Hot Deal**

| SIMMS | | DIMMS | |
|---|---|---|---|
| 8MB | $25 | 8MB | $33 |
| 16MB | $45 | 16MB | $53 |
| 32MB | $89 | 32MB | $99 |
| 64MB | $199 | 64MB | $189 |
| | | 128MB | $699 |

## Monitors

**Apple 15AV** $389.

**Viewsonic 17EA 17"AV** $513.

**Apple**

| | |
|---|---|
| Multiscan 750 | $789.00 |
| Multiscan 750AV | $889.00 |
| Multiscan 850 20" | $1,499.00 |
| Multiscan 850AV 20" | $1,659.00 |

**Sony 17" 200SX** $589.

**Sony**

| | |
|---|---|
| 100SX15" | $339.00 |
| 100SF 15" | $369.00 |
| **200SX 17"** | **$589.00** |
| **200SF 17"** | **$669.00** |
| 300SF 20" | $1,299.00 |
| SE2 20" | $1,699.00 |

**Viewsonic**

| | |
|---|---|
| E641 14" | $209.00 |
| E655 15" | $289.00 |
| 17EA 17" | $513.00 |
| **15GS 15"(Graphic Series)** | **$339.00** |
| 15GA 15" (Graphic Series) | $369.00 |
| 17GS 17"(Graphic Series) | $569.00 |
| 17GA 17" (Graphic Series) | $619.00 |
| GT770 17"(Graphic Series) | $629.00 |
| GT775 17"(Graphic Series) | $659.00 |
| G800 20" (Graphic series) | $1,029.00 |
| GT800 20" (Graphic Series) | $1,199.00 |
| G810 21" (Graphic Series) | $1,399.00 |
| 29GA 29" (Graphic Series) | $2,199.00 |
| 17PS 17"(Pro Series) | $699.00 |
| PT770 17"(Pro Series) | $699.00 |
| P810 21"(Pro Series) | $1,399.00 |
| P815 21"(Pro Series) | $1,559.00 |
| VP140 15"(Pro Series) | $2,199.00 |
| PT775 17"(Pro Series) | $699.00 |

3 Year Warranty

## Modems

**Global Village**
Teleport 56Kbps $149.00

**Supra**
Supra Express 56e w/ speaker $139.00

**U.S.Robotics Modem**
56K 2X Tec.
For Only
$ 139

## Quick Cam

The Ideal Digital Video Tool

- •AnimateWebPages
- •Videoconference
- •millions of colors
- •Internet videochat and a lot more..

$199

## Digital Video

**Photo DV™ & Moto DV™**

**FireWire Technology**
•Video capture in real- time,full-motion or still-video,edit ,add effects and save back to tape w/ no loss!
¥ Camcorder not included! *MotoDV™upgrade!

- •Radius Moto DV w/ FireWire Card Full-Motion Video Capture $439.00
- •Radius Photo DV Still-Image Video Capture $439.00
- •Radius VideoVision ML $1,899.00
- •Radius VideoVision SP Upgrade PCI $1,699.00
- V 2.0 PCIPowerMac $2,399.00

## Printers

**Stylewriter 1500**

$139.

**Apple**

| | |
|---|---|
| Color Stylewriter 2500 | $199.00 |
| Laserwriter 4/600 | $679.00 |
| Laserwriter 12/640 | $1,199.00 |

**Epson**

| | |
|---|---|
| Stylus Photo | $449.00 |
| Stylus Color 600 | $285.00 |
| Stylus Color 800 | $409.00 |
| Stylus Color 1520 | $729.00 |
| Stylus Color PRO XL | $999.00 |
| Stylus 3000 | $1,699.00 |

**HP**

| | |
|---|---|
| DeskJet 340c | $269.00 |

**Epson Stylus 800**

$409

## ArtPads

WACOM

| | |
|---|---|
| Art Z II 6"X8" | 299.00 |
| Art Z II 12"X12" | 399.00 |
| Art Z II 12"X18" | 659.00 |
| Art Z II 18"X25" | 1,699.00 |
| Ultra Pen | 65.00 |
| 4-button puck | 38.00 |

## Apple Message Pad 2000

- •160Mhz RISC proc.
- •16-level Hi-resol. screen
- •2 PC Slots for memory and wireless modem or any other compatible card.
- •Exchange data with Windows and Mac OS
- •Built-in mic/speaker (optional keyboard for $ 75.)

$899.

†Modem not included

## Scanners

**MICROTEK**
Better Images Through Innovation.

| | |
|---|---|
| ScanMaker E3 | $149.00 |
| 35T 35MM Slide | $659.00 |
| ScanMaker E6 | $279.00 |
| ScanMaker III | $1,199.00 |

Model not shown !

**ScanMaker V300**

$129

- •24-bit color depth
- •Single-pass speed
- •300x600 dpi optical resolution

**Agfa**

| | |
|---|---|
| SnapScan | $269.00 |
| StudioStar | $699.00 |
| Arcus II (PhotoLook) | $1,299.00 |

**Umax**

| | |
|---|---|
| Astra 600 | $179.00 |
| Astra 1200 (soho) | $299.00 |
| Astra Transp. Adapter | $179.00 |
| PowerLook II | $899.00 |
| √Power Look 2000 | $1,999.00 |

√ - after manufacturer's rebate

## CALL 1-800-404-9976

FedEx

Schools & Corp. P.O.s are Welcome
Customer Service Toll-free number : 1-800-743-2998
McNet is not responsible for typos!
ALL PRICES ARE CASH DISCOUNTED. Prices & product availability subject to change without notice - Any merchandise returned is subject to a restocking fee! When returning, call for a RMA# first!Thank You!

# ON THE MAC MARKET!

## Software

### Business

**Microsoft Office 4.2.1**
Full version

$299.

**Microsoft**
Microsoft Office 4.2.1 (full version)....$299.
Office 4.2.1 (upgrade)....$199.
Microsoft Word 6.0.1 (full version)....$269.
Microsoft Excel 5.0 (full version)....$269.
Microsoft Excel 5.0 (upgrade)....$119.

**Now Software**
Now Contact and Up-to-Date 3.6.5....$79.

**Shana**
Informed Designer 2.0 (form designer)....$189.
Informed Filler (form filler)....$129.

**Timeslips**
Timeslips 4.0....$279.

### Design / Graphics

Adobe Photoshop 4.0
Upgrade

$129.

**Adobe Systems**
PageMaker 6.5 (full version)....$389.
PageMaker 6.5 (upgrade)....$89.
Photoshop 4.0 (full version)....$389.
Photoshop 4.0 (upgrade)....$129.
Illustrator 7.0 (full version)....$299.
Illustrator 7.0 (upgrade)....$89.
FrameMaker 5 (full version)....$479.
Streamline 4.0 (full version)....$129.

**Artifice**
Design Workshop 1.5....$569.

**Astound**
Astound 3.0 (presentation w/ multimedia)....$126.

**Deneba**
Canvas 5.0 (design & illustration)....$379.

**Engineered Software**
Power CADD 3.0 (pro-level draft-prog.)....$639.

**Fractal Design**
Detailer (Paints 3D models)....$289.
Expression 1.0 (object-oriented drawing)....$289.
Painter 5.0 (full version)....$259.
Painter 5.0 (upgrade)....$89.
Poser2.0 (human-models in 3D envir.)....$129.

**Graphsoft**
MiniCad 7.0....$499.
BluePrint 5....$199.

## Painter 5.0

The World's Most Creative Design Tool!

$269.

Radical New Features for Unlimited Creative Freedom!

**ImageXpress**
ScanPrepPro 3.1 (automates image-process)....$639.

**IMSI**
Turbo CAD 2D/3D 3.0 (semi-pro CAD soft)....$129.

**Macromedia**
Director 6 multimedia studio (full version)....$899.
Director 6 multimedia studio (upgrade)....$459.
Macromedia xRes 3....$299.
Director 6 (upgrade)....$369.
Extreme 3D 2.0 (3D-design,print,animation)....$349.

### FreeHand 7 - graphics studio

Upgrade

$169.

Full Version $299

Free Hand V7.0 (full version)....$199.
Free Hand V7.0 (upgrade)....$135.
SoundEdit 16 2 (full version)....$269.
Macromedia Flash (full version)....$189.
Fontographer(full version)....$299.

## Quark Xpress 4.0

The Best price on the Market!

Only

$699.

**Quark**
QuarkXpress 3.3.2 ( publishing )....$619.
QuarkXpress 4.0 ( publishing+Web)....$699.

**Specular**
Infini-D 4.0(3D/Animation/modeler)....$399.
Infini-D 4.0(upgrade)....$149.
Collage 2.0 CD....$79.

**Others**
Eye Candy 3.0 (Photoshop filters)....$189.
Object Dancer 1.1 (Object-oriented animat.)....$419.
Phototools 1.1(Photoshop filters)....$94.
Texture Creator 2.0 (Pro Level 3D graphics)....$125.
Walkthrough 2.6 (Architectural design )....$449.

## Internet / Database

•Instant Database publishing on the Web/
•Desktop publishing with Database content/
•Launch Java applets and much more...

Upgrade

$95.

FileMaker 4.0

**Claris**
FileMaker Pro 4.0 (FullVersion)....$189.
Claris Home Page....$94.
Claris Works Office....$94.
Claris E-Mailer 2.0 (e-mail manager)....$39.

**Farallon Communications**
Timbuktu Pro 3.0....$125.

**Net Objects**
Net Objects fusion 2.0(Website builder)....$449.

**RUN**
RunShare 2.1(AppleTalk network 2-users)....$289.

**StarNine tech.**
Quarter Deck Mail 4.0 (Mail server)....$299.
Quarter Deck Mail 4.0 (5-user pack)....$199.

**Symantec**
Symantec Visual café....$194.
Symantec Visual Page....$94.

Adobe Illustrator 7
Upgrade from V.5.0 or later

• A Solid
•reliable
• complete
• graphics
•Application

NOW

$89.

### Utilities/Programming

**Apple Computer**
MAC OS 8 (Macintosh operat. system)....$95.
Share IP 5.0 (Network manager)....$699.

**Caere**
Omni Page Pro 7 (OCR soft. pack)....$439.

**Casady & Greene**
Conflict catcher 4.0.2 (Start-Up tool)....$69.

**Connectix**
Speed doubler 2.0.1. (file transfer utility)....$89.
RAM doubler 2.0.1. (Doubles your RAM )....$89.

**Datawatch**
Virex 5.7 (great features in virus-detection)....$67.

**Metrowerks**
Code Warrior 10 gold(programming)....$339.

**mFactory**
mTropolis 1.1 (authoring tool)....$1099.

**Now soft.**
Now utilities 6.7....$85.

**Starnine tech**
ListStar 1.1 (mailing-list management)....$429.

**Symantec**
SAM 4.5 (virus protection)....$49.*

## Effects/Plug-ins/Media

### Adobe After Effects 3.1

•Broadcast multimedia and Film production Tool!

NOW

$399.

**Adobe**
Premiere 4.2 (full version)....$399.
Persuasion 4.0 (full version)....$299.

**Allegiant Tech**
SuperCard 3.0 (authoring tool w/ web plug-in)....$299.

**Artel Software**
Boris Effects 2.1 MP (Adobe plug-in)....$499.

**DigiEffects**
Aurorix 2.0 (full version)....$249.
Berserk 1.3 (full version)....$249.
Cyclonist 1.0 (particle-generation soft.)....$429.

**Extensis**
QX-Tools 2.0 (Xtensions-collection)....$94.

**Knoll soft.**
Lens Flare Pack 1.5 (after effects plug-in)....$139.

**MetaTools**
Bryce 2....$168.
Final Effects AP 1.0 (particle-generation )....$189.
KPT Final Effects 3.0.1 (effects collection)....$659.
Studio Effects 1.0 (3D particle-generator)....$659.

**M.M.M. Soft.**
HoloDozo 1.0 (Adobe Premiere plug-in)....$129.

**NewTek**
LightWave 3D (Pro-Level animation)....$1399.

**The Valis Group**
Movie Flow 2.0.2. (image distortion soft.)....$639.

**XaosTools**
TypeCaster 2.0 (3D text-plug-in)....$169.

Most widely used desktop web server software on the Internet !

$399

W/ Free! Bundled Software

### Others/Various

Delta Graph 4.0....$135.
Dantz Retrospect 4.0 (net. back-up) ....$139.
Letter Rip 1.0.2 (Superb mail-list server)....$269.
Live Picture XT....$138.
Prism 2.0 (Ideal statistics package)....$459.
QuickKeys 3.5.2 (Powerful Macro Utility)....$115.
Roaster Release 3 (Java Tools)....$95.
SoftWindows 95 v.4.0....$299.
Ultimatte for Mac 2.0 (Keying plug-in)....$1399.
Wingz 2.1.1 (Powerful progr. tool))....$369.

## STORAGE - MEDIA & HARD DRIVES

### JAZ DRIVE

$389

Jaz Drive w/ 1 cartridge....$389
Internal Jaz Drive....$219
1GB Jaz Cartridge....$82

**JAZ & CD-RECORDER DUO**
Jaz Drive & LaCie 2X/6X CD-R....$799

**SYJET & CD-RECORDER DUO**
SyJet 1.5G & LaCie 2X/6X CD-R....$799

### ZIP DRIVE

$129

Zip drive w/ 1 cartridge....$129
Zip 100MB cart. (10-pack)....$125
Internal Zip drive....$145
100MB Zip cartridge....$13

### CD/CD-R/Removables

2X REC/6X Play Recordable CD-Drive

$379

*Catch the CD-R Wave!*
*•For large file transfers, or mass distribution of media,(sound&image) CD-R provides the least expensive solution!*
*•Comes w/ Toast Pro software (a super value).*

### Magneto-Opticals

230MB Olympus SYS 230....$329
640MB Fujitsu 640 Optical....$469
2.6GB Sony 2.6GB Optical....$1,499

**Syquest/Microtech/Maxwell**
SyJet 1.5GB drive....$369
SyJet 1.5GB cartridge....$95
200 Megabytes cartridge....$52
270 Megabytes cartridge....$45

### CD-ROM

2X/6X CD-R w/Toast software....$389
4X/6X CD-R w/Toast software....$659
LaCie 12X CD-ROM (free Lacie FM Radio)....$179
LaCie 24X CD-ROM....$199

| Capacity | Model | Access | RPM | Interface | Drive cache | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| **2.1 GB** | | | | | | | |
| Quantum | TM2110S | 11 Ms | 4500 | Ultra SCSI-3 | 128k | $229 | $279 |
| Seagate | 32151N | 9 Ms | 5400 | Ultra SCSI-3 | 256k | $299 | $349 |
| Quantum | ST2160S | 10 Ms | 5400 | Ultra SCSI-3 | 128k | $229 | $279 |
| Quantum | Atlas 32275 | 8 Ms | 7200 | Ultra Wide SCSI-3 | 512k | $289 | $339 |
| IBM | 32160W | 8.5 Ms | 5400 | Ultra Wide SCSI-3 | 512k | $229 | $279 |
| **3.2 GB** | | | | | | | |
| Quantum | M3240S | 10 Ms | 5400 | Ultra SCSI-3 | 128k | $309 | $359 |
| **4.3 GB** | | | | | | | |
| Conner | CFP4207W | 10 Ms | 7200 | Fast Wide SCSI-2 | 512k | $499 | $549 |
| Fujitsu | M2934SAU | 8 Ms | 7300 | Fast SCSI-2 | 512k | $559 | $599 |
| Fujitsu | M2954SYU | 8 Ms | 7300 | Ultra SCSI-3 | 512k | $599 | $649 |
| IBM | DCAS-34330 | 8.5 Ms | 5400 | Ultra SCSI-3 | 512k | $399 | $449 |
| IBM | DCAS-34330W | 8.5 Ms | 5400 | Ultra Wide SCSI-3 | 512k | $399 | $449 |
| Quantum | CY54335A | 14 Ms | 3600 | EIDE-4 | 128k | $259 | $319 |
| **4.5 GB** | | | | | | | |
| Seagate | ST34501W | 8.5 Ms | 10033 | Ultra Wide SCSI-3 | 512k | $699 | $749 |
| Micropolis | MC4345WS | 7.9 Ms | 7200 | Ultra Wide SCSI-3 | 512k | $599 | $649 |
| Seagate | ST34572W | 8.9 Ms | 7200 | Ultra Wide SCSI-3 | 512k | $699 | $749 |
| Quantum | AL34550S | 8 Ms | 7200 | Ultra SCSI-3 | 512k | $549 | $599 |
| Quantum | AL34550SW | 8 Ms | 7200 | Ultra Wide SCSI-3 | 512k | $599 | $649 |
| **6.5 GB** | | | | | | | |
| Quantum | QTST6480s | 10 Ms | 5400 | Ultra SCSI-3 | 128k | $469 | $519 |
| **9.1 GB** | | | | | | | |
| Micropolis | 3391NS | 7.9 Ms | 7200 | Ultra SCSI-3 | 512k | $949 | $999 |
| Quantum | AL39100SW | 8 Ms | 7200 | Ultra Wide SCSI-3 | 1024k | $899 | $949 |
| Seagate | 19171N | 9 Ms | 7200 | Ultra SCSI-3 | 512k | $990 | $1050 |

CIRCLE 413 ON READER SERVICE CARD

"Custom Configuration Specialists"
•Dealers & International sales welcome!
•Govt.,University & Corporate P.O's Welcome
•Best Prices, Service & Delivery.
Web Site @ www.infinity-micro.com

# Infinity Micro

One stop shopping for all your software & hardware needs!

## 800 • 589 • 1234

TEL310•470•9426 FAX 310•470•4956

"We Match, We beat , We deal." CALL US LAST!!!

GCC TECHNOLOGIES UMAX Seagate APPLE DAYSTAR HEWLETT PACKARD QMS RASTEROPS

Largest & Most Complete Mail order Source!

2289 Westwood Blvd. Los Angeles, CA. 90064
Email us at: Infinity2@earthlink.net
Web Site @ www.infinity-micro.com

### POWERMAC

| | |
|---|---|
| 4400/200 16/2GB/CD/KB | $1095. |
| 4400/200 32/2GB/CD/OF/KB | $1285. |
| 6100/60 8/250/CD | $595. |
| 6100/66 16/500/CD/DOS | $995. |
| 6500/225 32/3GB/CD/3F/KB | $1495. |
| 6500/250 32/4GB/CD/ZIP/KB | $1795. |
| 6500/250 48/4GB/CD/3F/MS | $1845. |
| 6500/275 48/4GB/AVID | $2195. |
| 6500/300 64/4GB/12XCD | $2195. |
| 7100/80 8/700/CD | $895.* |
| 7100/80 16/700/CD/AV | $995.* |
| 7200/90 8/500/4XCD | $895.* |
| 7200/120 16/1G/4XCD | $1095. |
| 7200/120 8/1.2/4CD/PENT. | $1695. |
| 7300/180 16/2GB/CD/KB | $1695. |
| 7300/200 32/2GB/CD/KB | $1895. |
| 7500/100 16/1G/4XC | $1295. |
| 7600/132 16/1.2/8XCD | $1495. |
| 8100/100 16/1GIG/CD/AV | $1385. |
| 8100/110 16/2G/CD | $1395. |
| 8500/132 16/1G/4XCD | $1595. |
| 8500/150 16/1.2G/8XCD | $1649. |
| 8500/180 32/2GIG/8XCD | $1995. |
| 8600/200 32/2GB/CD/zip/kb | $2595. |
| 8600/300 32/4gb/12xCD/z/k | $3395. |
| 9500/180MP 32/2G/8XCD | $2495. |
| 9500/200 32/2GIG/8XCD | $2795. |
| 9600/200 32/4GB/CD/KB | $2895. |
| 9600/200MP 32/4GB/CD/KB | $3395. |
| 9600/233 32/4GB/12XCD | $2895. |
| 9600/300 64/4GB/16xCD/Zip | $3895. |
| 9600/350 64/4GB/24xCD/Zip | $CALL |

### W.G. SERVER'S

| | |
|---|---|
| 7250/120 12/1GB/Internet | $1395. |
| 7350/180 48/4GB/12xCD | $2375. |
| 7350/180 48/4GB/CD/Internet | $2795. |
| 7350/180 48/4GB/CD/A.Share | $3895. |
| 9650/233 64/4GB/CD/Internet | $4695. |
| 9650/233 64/2x4GB/CD | $5645. |
| 9650/233 64/2x4GB/CD/A.S. | $5645. |
| 9650/233 64/4GB/AS/DAT | $5645. |
| 9650/350 64/4GB/CD/A.S. | $CALL |
| 500/132 32/CD/Base System | $6295. |
| 500/132 32/2GB/DAT/CD | $7895. |
| 700/150 32/1GB/CD | $7495. |
| 700/150 48/4GB/DAT/CD | $9295. |
| 700/200 48/2x4GB/CD | $10695. |

### NEWER TECHNOLOGY

| | |
|---|---|
| MAXPOWER 200MHZ | $589. |
| MAXPOWER 225MHZ | $739. |
| MAXPOWER 360MHZ | $939. |
| MAXPOWER 400MHZ | $979. |
| MAXPOWER 450MHZ | $1079. |
| NUPOWER 1400 183MHZ | $579. |
| NUPOWER PB-500 183MHZ | $785. |

### PERFORMA

| | |
|---|---|
| 5200/75 8/800/CD | $895. |
| 5215/75 8/1G/CD/14.4 | $949. |
| 5260/100 16/800/CD | $1095. |
| 5300 /120 16/1GIG | $1095. |
| 5400/180 16/1.2/CD | $1295. |
| 640DOS 12/500/CD | $695. |
| 6116 8/500/CD | $595. |
| 6200/75 8/1G/CD | $595. |
| 6220TV 16/1.2G/CD | $745. |
| 6300/100 16/1.2/CD | $745. |
| 6320CD 16/1G/CD | $795. |
| 6360/160 16/1.2/CD | $895.- |
| 6400/180 32/2G/CD | $895. |
| 6400/200 16/2.4/CD | $1049 |
| 6400/200VE 16/2.4/CD | $1689. |

### POWERBOOK

| | |
|---|---|
| 3400C/240MHz 16/3GB/CD | $4095. |
| 3400C 200MHz 16/2GB/12xCD | $3395. |
| 3400C 200MHz 16/2GB/8xCD | $3195. |
| 3400C 200MHz 16/2/CDno mdm | $2995. |
| 3400C/180MHz 16/1.3/GB/12CD | $2995. |
| 3400C/180MHz 16/1.3/GB/6xCD | $2795. |
| 1400C/166 16/2GB/8XCD | $2445. |
| 1400C/133 16/1GB/CD | $2295. |
| 1400C/117 32/1 GIG/CD | $2095. |
| 1400CS /117 16/750/6XCD | $1695. |
| 1400CS/133 16/2.1GB/CD | $1895. |
| 5300CE/117 32/1G | $1795. |
| 5300C 24/500 | $1495. |
| 5300C 16/1GIG | $1595. |
| 5300CS 16/750 | $1295. |
| 5300CS 16/750/Case | $1095. |
| 2300C 20/1GB/14.4/DOCK | $1795. |
| 2300C 20/1GB/14.4 Trade in your | $1295. |
| 2300C 8/750 PowerBooks | $995. |
| 540C 16/500/14.4 for a Newer | $1195. |
| 5300 8/500 MONO Model. | $895. |
| 520/150/190CS | $CALL |

### SUPERMAC / UMAX

| | |
|---|---|
| Umax S900/250DP 64/4GB/CD | $6395. |
| Umax S900/200DP 32/2GB/CD | $3095. |
| Umax S900/180DP 32/2GB/CD | $2795. |
| Umax S900/250 32/2GB/CD | $3495. |
| Umax S900/233 32/2GB/CD | $2795. |
| Umax S900/200Mhz 32/2.1 HD/6Pci/KB | $2395. |
| Umax S900/180Mhz 32/2.1HD/6Pci/KB | $2395. |
| Umax J700 604e/180Mhz 24/2GB/2MB | $1795. |
| Umax C600 603e 240Mhz 24/2.1/28.8 | $1445. |
| Umax C600 603e 200Mhz 16/2.1/28.8 | $1295. |
| Umax C600E 200Mhz 32/2GB/12x/Zip | $1645. |
| Umax C600 603e 180Mhz 16/1.2/8xCD | $1095. |
| Umax C500 603e 180Mhz 16/1.2/8xCD | $1095. |
| Umax C500 603e 140Mhz 16/1.2/8xCD | $945. |

### MONITORS

| | |
|---|---|
| Apple 14" /15" Multiscan | $249./$299. |
| Apple 15"AV Multiscan | $345. |
| Apple 17" Multiscan | $595. |
| Apple 1705/1710 | $585./$745. |
| Apple 1710AV Multiscan | $ 795. |
| Apple Vision 750 | $795. |
| Apple Vision 750AV | $895. |
| Apple Vision 850 20" | $1445. |
| Apple Vision 850AV 20" | $1795. |
| Apple 20" Multiscan | $1095. |
| Magnavox 20" Color | $895. |
| Radius PrecisionView 21" | $1695. |
| Radius PressView 17SR | $1595. |
| Radius PressView 21SR | $2995. |
| RasterOps MC20 20".28 | $1245. |
| RasterOps MC-801 21" | $1595. |
| RasterOps MC-801HR | $1749. |
| RasterOps M7515 19" | $1095. |
| SuperMac 21" Color | $895. |
| Sony 100SX/100SF | $335./$379. |
| Sony 200SX/200SF | $619./689. |
| Sony 17SE2 | $799. |
| Sony 300SF-20" | $1329. |
| ViewSonic 17GA Multi | $619. |
| ViewSonic 17EA-17" | $589. |
| ViewSonic GT-770 17",.25 | $649. |
| ViewSonic GT-800 20" | $1145. |
| ViewSonic PT-810 21",.25MM | $1445. |
| ViewSonic P810 21",.25MM | $1295. |
| ViewSonic P815 21",.25MM | $1295. |
| ViewSonic G810 21",.25MM | $1095. |
| ViewSonic PT-813 21",.28 | $1395. |

### MOTOROLA STARMAX

| | |
|---|---|
| 5000/225 32/2.5/CD/56K | $1795. |
| 5000/250 32/2.5/Zip/56K | $2045. |
| 5000/275 32/4.5/CD/Zip | $2395. |
| 5000/300 32/4.3/CD/Zip | $2445. |
| 5500/200 64/4.3/CD/Zip | $2545. |
| 6000/233 32/2GB/CD/10BT | $3395. |
| 6000/266 64/2GB/Zip/10BT | $3995. |

### SOFTWARE

| | |
|---|---|
| Adobe Photoshop 3.05 | $ 345. |
| Adobe Illustrator 6.0 | $ 279. |
| Adobe Pagemaker 6.5 | $ 279. |
| Adobe After Effects | $1245. |
| Quark Express package | $ 649. |
| Microsoft Office package | $ 295. |
| Electric Image Broadcast | $2295. |
| Lightwave 3D 5.0 | $1095. |

### PRINTERS

| | |
|---|---|
| StyleWriter II | $179. |
| StyleWriter 1200/1500 | $99./129. |
| StyleWriter 2200 | $389. |
| StyleWriter 2400/2500 | $149./189. |
| StyleWriter 4100 Color | $239. |
| StyleWriter 4500 Color | $339. |
| StyleWriter 6500 Color | $469. |
| LaserWriter 4/600 | $695. |
| LaserWriter 12/640 | $1095. |
| LaserWriter 12/600 | $1689. |
| LaserWriter Color 12/660New | $4995. |
| LaserWriter Color 12/660Demo | $2995. |
| LaserWriter Color 12/600Demo | $2495. |
| Epson Stylus 600 | $279. |
| Epson Stylus 800 | $419. |
| Epson Stylus Pro-XL | $1295. |
| Epson Stylus 3000 Color | $1669. |
| Fargo Pictura 310 | $2992. |
| Fargo Pictura 310Ethernet | $3499. |
| Fargo PostScript option | $295. |
| Gcc Elite XL-1212 Laser | $1089. |
| Gcc Elite XL-608 | $2089. |
| Gcc Elite XL-616 | $2345. |
| Gcc Elite XL-808 | $2699. |
| Gcc Elite XL-1208 | $3895. |
| HP Deskjet 870CXI | $389. |
| HP Deskjet 1600CM | $1585. |
| HP LaserJet 5MP | $595. |
| HP LaserJet 6MP | $875. |
| HP LaserJet 4MV | $CALL |
| HP Laser 5M | $CALL |
| HP Laser 5SIMX | $3395. |

### ZIP/JAZZ/KB'S

| | |
|---|---|
| Iomega Zip drive | $149. |
| Iomega Jazz 1GB drive | $395. |
| EZ-QUEST Jazz 1GB w.1 cart. | $329. |
| MacAlley Extended KB | $49. |
| Apple Extended Keyboard II | $99. |

### MEMORY PRODUCTS

| | |
|---|---|
| PowerMac 16MB Dimms | $79. |
| PowerMac 32MB Dimms | $109. |
| PowerMac 64MB Dimms | $229. |
| PowerBook 16MB 3400 | $95. |
| PowerBook 32MB 3400 | $179. |
| PowerBook 64MB 3400 | $379. |
| PowerBook 128MB 3400 | $695. |

### NUBUS, PCI & PC CARDS

| | |
|---|---|
| Centris 610/660AV nubus adapter | $19. |
| Apple Pentium 100Mhz card | $399. |
| Apple Pentium 166Mhz card | $895. |
| IMS Twin Turbo 8MB PCI | $469. |
| ATI Xclaim-VR 4Mb card | $279. |
| Precision Color 24/1600 | $445. |
| Radius Thunder30-1600 6MB | $649. |
| Radius Thunder Color/30-1600 | $1899. |
| Radius Thunder Power/30-1600 | $545. |
| Radius Thunder Power/30-1920 | $795. |
| Radius Thunder 3D Pci card | $1845. |
| TrueVision Targa 1000 Pci | $1649. |
| TrueVision Targa 2000 Pro Pci | $2995. |
| TrueVision Taga 2000 Pro demo | $2395. |
| Targa 2000N 24Bit NTSC | $1495. |

### SCANNERS

| | |
|---|---|
| AGFA Transparanci option | $379. |
| AGFA StudioScan II Color | $795. |
| AGFA Arcus II w. transparanci | $1495. |
| EPSON ES-1000C COLOR | $585. |
| Epson Exp. 636 Executive | $849. |
| Epson Exp. 636 Artist 600dpi | $1285. |
| Epson Exp. 636 Professional | $1695. |
| Microteck Scanmaker E3 | $345. |
| Microteck ScanMaker E6 STD | $569. |
| Microteck ScanMaker E6 Pro | $845. |
| Microteck ScanMaker III | $1095. |
| Microteck ScanMaker 35T Plus | $745. |
| Microteck ScanMaker Internet | $565. |
| Umax Astra 600S 300dpi | $179. |
| Umax Astra 1200S 600dpi,P.D. | $375. |
| Umax Astra 1200S 600dpi,Pshop | $445. |
| Umax PowerLook II w. UTA | $1249. |

*Used powerbooks 160/180/540/230/280 all Available in stock please call.*

FedEx
3 DAY SHIPPING INSTEAD OF 7 DAYS GROUND AVAILABLE NOW! THAT'S WHATS MAKING US SO GOOOOD!!! Cheeper, Faster & bette

### NEC MONITORS

| | |
|---|---|
| Multisync M700 17" | $66 |
| Multisync E1100 21" | $132 |
| Multisync P750 17" | $78 |
| Multisync C500 | $ 28 |
| Multisync M500 | $33 |
| Multisync P1150 | $147 |
| Multisync XV17+ | $58 |

Apple Color Laser 12/660 Printer
$ 2999.
~~$ 4999.~~
$ 2399.
Demo unit 12/600
Includes: √ New toner kit
√240HD
√28MB Memor

**PowerBook 5300 8/500 $899.**

**8MB MEMOERY** POWERBOOK 500 SERIES $29.

**HP LASER 5MP** 600DPI, POSTSCRIPT LVL2 $599.

**PowerBook 1400c 117MHz** 32MB/1GIG/6XCD/14.4 $2199.

GE 3 YEAR ON-SITE WARRANTY "Over 2700 products to choose from!"

| | | | | |
|---|---|---|---|---|
| $ 701 To $ 1200 | $1201.To $ 2000. | $2001.To $ 3000 | $3001.To $ 4000. | $4001 To $ 5000 |
| $ 135.95 | 165.95 | 189.95 | $ 219.95 | $ 249.95 |

• Govt..& university P.O.'S welcome • Prices are cash discounted and are subject to change without notice. We accept Visa, Mast.& Amex.•

CIRCLE 418 ON READER SERVICE CARD

## TRADE YOUR MAC FOR A NEW ONE. We Pay Top $$$ For Your Mac & Mem.

Competitive Leasing
Email: cgn @ cgnusa.com

**BUY•SELL•TRADE**

We custom configure and test your system.

### PowerMacs

| | |
|---|---|
| 9600 350 MHZ | 3199 |
| 9600 300 MHZ | 2985 |
| 8600 300 32-4Gb-CD | 2490 |
| 8600 200 32-4GB-CD | 1999 |
| 8500 132 MHZ | 1590 |
| 7300 180 MHZ | 1745 |
| 6500 | 1499 |

*Call For 350 & 300 Mhz*

| | |
|---|---|
| 4400 200Mhz | 1095 |
| 7200 /75/90/120 | CALL |

Call for config. not listed

### Powerbooks

| | |
|---|---|
| 3400C 240 Mhz | 3735 |
| 3400C 200Mhz | 3290 |
| 3400C 180 Mhz | 2650 |
| 1400C 16-1Gb-CD | 2190 |
| 2400cs 12/750 | 1845 |

*Call for New PB 3400*

### Demo Powerbooks

| | |
|---|---|
| PB 180c Color | 850 |
| 540C 12/320/Mod | 1045 |
| 5300cs 16/500 | 1099 |
| 145 - 170 -180c-165c | CALL |

*5300CS 8/500 999*

### Upgrades

| | |
|---|---|
| Same day Upgrade No down Time!! | |
| Prf 63X to 6300 603-100Mhz | 490 |
| 7200 to 7600 | 675 |
| 8100 to 8500 | 850 |
| 7500 to 604-150/233 | 299/379 |

Call for PowerBook Upgde

| | |
|---|---|
| Q800- Q840 to 8500 | 999 |
| 7100 to 7500/ 100 | 599 |
| PB 520 / 540 to 5300 | 550 |
| Q800-840 to 8100 | 490 |
| PB 5300 to 3400/CD | Call |

Call forUpgrades not listed

### Demo Macs

| | |
|---|---|
| 8500 132/120 | 1299/1590 |
| 7500 /7600 | 990/1225 |
| 9500 | 1450 |
| 8100/110 16/2GB/CD | 1190 |
| Q 800/ 840/950 | 450/550 |
| 7100/80 | 650 |
| 15" / 17" Monitor | 240 / 460 |
| Mac IIci | 149 |

### Performa

| | |
|---|---|
| 6200- 16/1Gb CD | 590 |

Call for latest prices.
6320/6400/4400/5212/575

### Memory

| | |
|---|---|
| Dimms 16/32/64 | 55 /99/190 |
| 30 Pin 1/ 4/16 | 8 / 23 / 75 |
| 72 Pin 8/16/32 | 32 /55 /99 |
| 2X - 4X-8x CD | 50 /85/155 |
| HD 1.GB - 2.GB-4GB | Call |
| Iomega Jazz Drive | 299 |
| Global Village Modem | 139 |

Call For:
Monitors, Printers, Scanners.
All Apple Parts In Stock and
We do Advance exchange.
Leasing Available.

### Parts

| | |
|---|---|
| Floppy 1.44 | 75 |
| POWER SUPPLIES | CALL |
| AV Card | $175 |
| Logic Bd 180/ 200Mhz | 899/ 999 |

Call for Logic Boards & more

**Computer Graphics & Networking**

All prices Reflect cash Discount
Visa, Mastercard, Amex Accepted
<< Prices are subject to Change.>>

**TEL:310-441-4771** 10922 W. Pico Blvd. Los Angeles, CA 90064 **Fax: 310-441-4770**

# The Lowest Finance Rate Available

## *FREE Software SuperBundle - $3500 Value*

Software SuperBundle - Adobe Premiere, Illustrator, PageMaker, Photoshop, LivePicture, Omni page Professional, DOS Mounter 95 Free - with this Ultimate Graphics Workstation.

FULL-LINE AUTHORIZED SERVICE CENTER - MAC & PC EQUIPMENT REPAIR, DATA RECOVERY, SHORT-TERM RENTAL, LOANER PROGRAM AND POWERPC PROCESSOR 120/132/150/180/225/233/250/300/350 MHZ 233MHZ UPGRADE AVAILABLE AS LOW AS $589.

**SUPERBUNDLE! $399 PER MONTH**

- PowerPC 9600/350MHZ or PowerTower Pro 250MHZ MP
- Internal 24x CD-ROM
- **416 MB RAM**
- 18GB internal RAID Disk
- Extended keyboard
- $1589 • **Radius PrecisionColor 21" Color - 1600X1200 0.25mm Color monitor**
- $489 • Twin-Turbo -128bit Graphic Engine, 1600x1200, w/8MB Graphic Engine
- $1389 • **Agfa Arcus II w/ Trans,36-bit Scanner**
- $899 • **External combo drive combo w/Jaz drive ,ZIP ,SQ200MB w/Cart.**
- $649 • **Apple LaserWriter 600dpi PostScript printer 4/600 w/one cartridge and Cables**
- Active SCSI terminator, One 25/50 SCSI cable, five 50/50 cables
- $149 • **UPS Battery Back-Up**
- $199 • **Apple QuickDraw 3D PCI Accelerator Card - 12 X Faster**
- Image Solutions Extended Services

*Power Macintosh 9600/350 Ultimate Graphics Workstation*

### Adobe Specials - PageMill 2 - $89 (MAC & Win.)

| | |
|---|---|
| **Adobe Photoshop 4.0 /Retail** | **$299/$369** |
| **Adobe Photoshop 3.0.5/LE** | **$199/$99** Sale |
| Adobe Illustrator 5.5/7.0 | $199/$289 |
| Adobe PageMaker V6.0/V6.5 | $199/$289 Sale |
| **Adobe Premiere 1.0.1/4.2** | **$99/$399** |
| **AfterEffects/Product. Bndle** | **$499/$1689** Sale |
| **Persuasion V4/Dimension3** | **$229/$125** |
| **Acrobat V3.0/Type-on-Call** | **$149/$39** |
| **FrameMakerV5/Streamline4** | **$469/$125** Sale |
| **Adobe PhotoDeluxe/ATM** | **$35/$59** |

### PowerBook - 1400 CS/117 12/750 $1379

PowerBook - 1400C /133 16/1GB/CD $2279
PowerBook-3400C/240 16/3GB/CD/M/E/F $4579

### System Bundle w/ 20" monitor, XKeyboard, Mouse

| | *Buy!* | *Lease!* |
|---|---|---|
| PowTowPro/225 32/2.2GB/CD | $3179 | $75 |
| PM9600/300 64/4GB/12XCD | $4599 | $109 |
| PM9600/350 64/4GB/CD/ZIP | $5499 | $139 |
| PM9500/MP 180 32/2GB/8XCD | $3999 | $87 |
| PM8600/300 64/4GB/CD/ZIP | $3749 | $79 |
| PM7300/180 16/2GB/12XCD | $2999 | $65 |
| PM4400/200 16/1.2GB/8XCD | $2499 | $55 |
| Starmax 5000/300 32/4.3GB/CD | $3349 | $79 |
| SuperMac S900 /32/2.1GB/CD | $3579 | $85 |
| SuperMac C600 /16/1.2GB/CD | $1989 | $55 |
| DayStar MP400/ 2x200MHZ /32/2.2GB/CD (upgradable to 4x 200MHZ) | $5999 | $159 |

### Printer-STY1200$99

| | |
|---|---|
| EpsonStylus3000 | $1659 |
| Apple Laser 4/600 | $649 |
| HP 4MV 11x17 | $2389 |
| GCC XL1208,11x17 | $3869 |
| Apple12/600 Color | $3589* |

### Monitor & Display Card

| | |
|---|---|
| DSC 15"/17"Color | $269/$395 |
| DSC 20"/21" Color | $889/$1239 |
| ViewSonic 17"/19" | $599/$949 |
| Radius17"/21"Color | $639/$1589 |
| IMS 4MB/8MB 3D | $285/$445 |

### MicroSoft - Office V4.2.1 -$149

| | |
|---|---|
| Microsoft Office 4.2.1 /97 | $149/$249/$279 |
| Microsoft Word 5/6.0.1 | $149/$199 |
| Microsoft Excell 4/5.0 | $149/$199 |
| M.S.Project v4/FrontPage | $249/$99 |
| PowerPoint 4/Works 4 | $199/$99 |
| MiniCAD7/BluePrint5 | $489/$199 |
| WordPerfect 3.5/M.Y.O.B 7 | $79/$69 |

Jaz w/ Cart. $295

$99!

Photoshop

$199!

Illustrator 4.6GB M.O.

$1189!

Pinnacle Micro

$149!

Acrobat

$69!

FileMaker Deluxe

$29!

### Ext. H/D, DAT Tape,MO, SyQ & CDR Devices

**(Minus $39 for Internal Drive )**

| | *Ext.* | *Turbo* |
|---|---|---|
| 42MB/160MB/230MB/540MB | $89/$129/$149/$199 | +$25 |
| 1GB/2GB/3.2GB/4.3GB | $239/$275/$365/$405 | +$25 |
| **4.5GB/6.4GB/9.1GB** | **$669/$535/$1125** | **+$25** |
| **7200rpm 4.5GB IBM/Quantum/Seagate** | **$719/$739/$819** | **+$29** |
| **Micropolis /Quantum/Fuji 9.0GB 7200rpm** | **$1125** | **+$49** |
| **SONY DAT Seagate/5000/7000** | **$899/$949/$1149** | **+$89** |
| **DLT Tape Drive 30GB/40GB** | **$2749/$3579** | **+$99** |
| **ExtraByte 5GB Tape Dr.** | **$1199** | **$1249** |
| SyQuest 270/200MB Ext. Drive | $299/339 | +$25 |
| **SyQuest EZ135/ EZ230** | **$109/$145** | **+$25** |
| **Panasonic 650MB M.O. Dr.** | **$699** | **$749** |
| **SONY 1.3GB M.O. Drive** | **$989** | **$1099** |
| **Pinnacle Micro 4.6GB M.O.** | **$1189** | **+$99** |
| **Olympus 230MB/ 2.6GB M.O. Drive** | **$309/$1649** | **+$99** |
| **Fujitsu 230/640 MB M.O. Drive** | **$469/$599** | **+$49** |
| Phillips/Ricoh Rewritable CDR 6X/2X | $589/$629 | +$49 |
| SONY CDR 6X/2X w/Toast | $399 | $429 |
| Yamaha CDR 6X/4X w/Toast | $689 | $729 |
| **Ext. Jaz/Zip & DiskArrays** | **Ext.** | **Turbo** |
| IOMega Zip ext. Dr. w/Cart. | $135 | $155 |
| **Jaz ext. Dr. w/ Cart.** | **$375** | **+$25** |
| **Jaz + CDR ext. Dr w/SW** | **$779** | **$989** |
| **SyJet 1.5GB Dr. w/2X cart.** | **$395** | **$429** |
| 4GB DiskArray | $749 | $799 |
| 8GB F&W DiskArray | $1289 | $1389 |
| 16GB F&W DiskArray | $2449 | $2599 |
| 24GB F&W DiskArray | $3549 | $3699 |

### Scanner: UMAX Mirage 11x17 - $3489

| | |
|---|---|
| Epson 1000C/636 | $489/$735 Sale |
| LinoColor JADE/SAPHIR | $469/$1789 |
| Microtek V300/E3/E6 | $145/$185/$289 |
| **UMAX Astra 600 /1200** | **$165/$295*** Sale |
| **UMAX PowerLook II/2000** | **$1239/$2589*** |
| Agfa StudioStar / Arcus II | $729/$1329 |
| Nikon CoolScan / Super | $895/$1619 Sale |

### Software Specials - MAC & Win.

| | |
|---|---|
| Auto F/X GraphicEdge/Pac | $189/$239 Sale |
| Authorware 4/Inte. Studio | $1789/$2879 |
| Freehand 7/Graphics Studio | $289/$349 |
| Director6/Multimedia Studio | $789/$849 |
| SoundEdit 16/ + DECK II | $229/$279 |
| Macromeida xRes 3/ Ex. 3D | $159/$159 |
| Macro. Fontographer/ Flash 2 | $159 Sale |
| CorelDRAW 6/CyberStudio2 | $289/$249 |
| Corel Stock Photo/HomePage | $829/$69 Sale |
| AstarteToast Pro. 3/CD-COPY | $89/$55 |
| Astarte CD-DA / M-Pack | $349/$389 |
| Masterlist CD / PRO Tools | $489/$689 |
| Audiomedia III: PCI Audio I/O | Card $689 Sale |
| Caere OmniPage Pro./Direct | $89/$39 |
| Claris Works / Internet Con. | $89/$29 |
| ClearVideo 1.2/mTropolis | $289/$889 |
| DOS Mounter '95/Here & Now | $49/$89 Sale |
| Dantz Retrospect II/ Quicken | $99/$29 |
| Eye Candy 3.0.1/Stylist 1.0 | $109/$109 |
| F.D. Painter V3/4/5 | $129/$179/$229 |
| F.D. Detailer / Expression | $249/$249 |
| F.D. 3D STE/ Ray Dream St. | $349/$249 |
| FD Poser v2/Dabbler V2 | $125/$35 |
| FWB H/D or CD ToolKits | $29/Bundle Sale |
| Infini-D V4 / VectorEffect | $489/$99 |
| Kai's Power Tools 2/3/SE | $49/$99/$69 |
| Live Picture 2.1/SE/2.6 | $149/$189/$269 |
| Norton Utilities V3.2/SAM V4 | $89/$49 |
| QuarkExpress V 3.32/Bryce2 | $635/$149 |
| SoftWindows 95/ V3.1 Tr. | $139/$49 Sale |
| Speed DoublerII /FileMakerPro | $39/$69 |
| StrataStudioPro 2.1/Form Z | $635/$XXX |
| Xerox TextBridge V3/Pro 3 | $65/$235 |

**Quantum 4.3GB Int. H/D** $369!

**Ricoh Re-Writable Int. CD-R** $589!

IOMEGA $2.49!

74 MIN. 650MB!

MEMORY :VIKING, KINGSTON, NEWER TECH. AVAILABLE

### SyQuest

| | |
|---|---|
| 270MB | $54 |
| **200MB** | **$61/$54** |
| EZ 135 | $19/$22 |
| 88MB | $41/35 |
| 44MB | $37/32 |

$79!

$11*!

### Iomega

| | |
|---|---|
| 1.0GB Jaz | $79 |
| **100MB Zip** | **$11*** |

### Optical

| | |
|---|---|
| **74Min CD** | **$2.49** |
| **DSC 128MB** | **$7.49** |
| DSC 230MB | $9.79 |
| **DSC 650MB** | **$28.99** |
| DSC 1.2GB | $37.99 |

### Memory

| | *30 pin* | *72 pin* | *168 pin* |
|---|---|---|---|
| 4MB | $25 | $25 | - |
| **8MB** | **$37** | **$37** | **$37** |
| 16MB | $69 | $69 | $69 |
| **32MB** | - | **$124** | **$124** |
| 64MB | - | - | $239 |

# 800-352-3420

**Fax: 310-782-5974**

Email: imagesol@earthlink.net

http://www.imagesolution.com

385 Van Ness Ave. #110 • Torrance, CA 90501

VISA MasterCard

**Order from 6 to 9 weekdays, weekends from 9 to 9.Visit our showroom 9 to 6 weekdays, weekends by appointment.**

Prices subject to change without notice. Not responsible for typographical errors. 24 hour replacement limited to products in stock.

Image Solutions

The solution provider for print shops, service bureaus and imaging professionals

Buy 150 Blank CDs @$2.49 and receive a free 12X CD Drive!!

★ Holiday Super Special ★

Blank Media for only $2.19 ea. with purchase of a CD-R!!

**CD Recorders**

2x2x6 Rewritable ..... $529
4x6 Yamaha ..... $499
4x8 Panasonic ..... $489
Add $60 for external
All CD-Rs Include Free Toast

**CD-R Duos**

JAZ2CDR (4x8) ..... $879
CD2CDR(12x/4x8) ..... $799
DAT2CDR(2 Gig/4x8) $995
2-UP CDR (4x8/4x8) ... $999
All Duo prices external

**Multi CD Copiers**

Call for price & config.

**Media** (CDs minimum 10)

Media One ..... $2.49
Name Brand ..... $3.49
CD-RW ..... $19.99
Jaz Cartridges ..... $89.95

**Software**

Copy Cat(multi CD) ..... $199
Toast ..... $79
Gear ..... $59

Holiday Special! Includes: External Drive, Toast Software, Cables, 10 Pc. Media — $559 Complete Kit! Yamaha 4X6!

Jaz 2 CD $879

Holiday Special! Includes: External Drive, Toast Software, Cables, 10 Pc. Media — $539 Complete Kit! Panasonic 4X8!

CD 2 CDR $799

Check Out Our WEB Catalog At www.copycatshop.com

CD Copiers We'll build the size you need. Call for prices and configurations.

2 in 1 Printer! Print on CDs or use as a desktop inkjet!! $979

Paragon Pro 1200 The Best Scanner at the Lowest Price! $649

Order Toll Free 1-888-663-3121

Open Mon-Sat 7 am -7 pm 760.510.9880 Voice 760.510.9888 Fax

Copy Cat Shop A DIVISION OF Media One

CIRCLE 431 ON READER SERVICE CARD

**Apple StyleWriter 1200**

- 360x360 dpi Ink-Jet
- Black & White
- 90 day warranty
- Refurbished
- Includes Printer cable and Ink

ONLY $89

**Apple 13" & 14" Monitors**

- 13" RGB - $179
- 14" Multiscan refurb - $149
- 14" Color RGB - $229
- Trinitron tubes
- Used
- 90-day warranty

FROM $179

MacWorks 800-482-2705

"Low Prices, Great Service...And A Monkey!"

Voice 913-599-6227 • Fax 913-599-6111

**Apple PowerMac 6100 DOS Card Kit**

- DOS Included
- All manuals/cables inlcuded
- Retail Box
- Full Warranty
- Fits 6115/6116 also

* Brand New in box

ONLY $99

| USED | |
|---|---|
| PowerMac 9600/233 - 0/0/CD | $2299 |
| PowerMac 7600/120 - 16/1.2GB/4xCD | $999 |
| PowerMac 6100/60 - 16/250/CD | $599 |
| Quadra 610 - 12/230/CD | $399 |
| Performa 640 DOS - 12/500/CD | $529 |
| PowerBook 170 - 8/80 | $399 |
| PowerBook Duo 280c - 12/320/Modem | $649 |
| PowerBook Duo 230 - 12/120 | $399 |
| Duo Dock - Orginal/Upgraded | $199/$249 |
| Macintosh 13" RGB Monitor | $179 |
| LaserWriter IInt - 300 dpi | $199 |
| LaserWriter IIntx- 300 dpi | $249 |
| LaserWriter IIf/IIg - 300 dpi | $499/$599 |
| Nubus Video Card - 8 bit | $99 |

| PARTS & ACCESSORIES | |
|---|---|
| Apple Extended Keyboard - used | $49 |
| Apple Desktop Bus Mouse - new | $49 |
| Performa 630->640 Upgrade | $99 |
| GV 19.2 Internal Modem for 500 series PB | $99 |
| Plaintalk Microphone | $9 |
| Manual/Auto Inject Floppy | $79/$99 |
| Apple MPEG Card for 630/6200/5300/5200 | $49 |
| PB 190 Infrared Card Upgrade | $29 |
| PB 190/5300 8MB Ram Module | $69 |
| PB 500 8MB/Duo 8MB Ram Module | $39 |
| IIcx/650/7100 Power Supply | $89 |
| Duo Dock Power Supply | $119 |
| 800/840/8100 Power Supply | $129 |
| Focus L-TV Pro Mac RGB to TV Convertor | $99 |

**PowerMac 8600/300 32/4GB/24xCD/Zip/Keyboard**

- 300 Mhz 604e
- 100Mhz Bus
- 1MB Cache
- 2MB VRAM
- 32MB RAM
- 4GB AV HD

FROM $2999

32/4GB/24xCD/Kybd. $2899

**Apple CD-ROM Bundles**

| | |
|---|---|
| CD1200i 8x CD-ROM | $99 |
| add Atlantic Tech speakers | only $49 |
| CD1800i 12x CD-ROM | $149 |
| add Atlantic Tech speakers | only $29 |
| CD3600i 24x CD-ROM | $199 |
| add Atlantic Tech speakers | only $29 |

- M105/M110 System
- Subwoofer/Satellite
- Ranked by CNET

* Add stands for $9

FROM $99

**Newton 120 2MB, OS 2.0**

- 2MB Internal RAM
- Newest OS
- 1 PCMCIA Slot

FREE!! Get a Free Copy of Solitare with any Newton order!

ONLY $149

**Mac IIsi, IIcx, IIci Bundles**

| | |
|---|---|
| II 4/40/Video | $199 |
| IIx 4/40/Video | $229 |
| IIcx 4/80 | $279 |
| IIsi 5/80 | $299 |
| IIci 4/80 | $349 |

All Bundles Include:

- 13" Apple RGB High Resolution Display
- Apple Extended II Keyboard & Mouse
- Atlantic Technology Sub/Satellite Speakers

* Add 4MB of RAM to any bundle $29
* Add 16MB of RAM to any bundle $99

FROM $199

**APPLE 604/132 UPGRADE CARD for PowerMac 7500, 7600, 8500 and 9500**

ONLY $49

SEE OUR WEB PAGE FOR FULL LINE OF PRODUCTS e-mail: sales@macworks.com • web: http://www.macworks.com/ • Prices Subject to Change • All Prices Represent 2% Cash Discount • We only ship FedEX • *Denotes Refurbished or Used

CIRCLE 430 ON READER SERVICE CARD

## Epson ES 300/GS Personal Document Scanner

- Sheetfed image and text scanner
- 4 ppm scanning speed
- 10-sheet feeder built in
- SCSI interface
- 8-bit grayscale, 300-dpi
- OCR software included

BRAND NEW . . . . . $49

## Color LaserWriter 12/600PS

- supports Mac, DOS, UNIX, even Windows
- true 600x600-dpi
- Color PhotoGrade
- prints up to 12-ppm
- Enhanced Grayscale
- LocalTalk, Ethernet, and Parallel ports

*accessory kit not inlcuded

REFURBISHED . . . . . $2299

*Color LaserWriter 12/660 only $2499

## Performa 6300/10C

Mac OS

FREE software!

- 100-MHz PowerPC™ 603e
- internal 14.4 faxmodem
- 14" Apple Display
- keyboard & mouse

16/1.2GB/4XCD

Complete!

PowerPC™

$1049

## Performa 5200/75

Mac OS

- 8/800/4XCD
- 75-MHz PowerPC™ 603
- built-in display
- mouse & keyboard

$899!

*factory refurbished

Complete!

## NEW APPLE 8X INTERNAL CD-ROMS

UPGRADE YOUR OLD 2X OR 4X CD-ROM DRIVE FOR Only $99!!

*mounting kit not included

## PowerComputing

### PowerCenter Pro 180 Minitower

- 180-MHz PowerPC 604e
- 32MB of RAM, 2GB hard drive
- 16X CD-ROM
- 2MB VRAM
- keyboard & mouse
- factory refurbished

$1799

PowerPC™

Low-profile with 16/2GB/16XCD Only $1599!

### PowerBase 240 Minitower

- 240-MHz PowerPC 603e
- 16MB of RAM, 1.2GB hard drive
- 8X CD-ROM
- keyboard & mouse
- factory refurbished

$1199

PowerPC™

### PowerCenter Pro 210LP

- 210-MHz PowerPC 604e
- 16MB of RAM, 2GB hard drive
- 16X CD-ROM
- 2MB VRAM
- keyboard & mouse
- factory refurbished

PowerPC™

$1699

## PowerPort Mercury

GlobalFax software included. Features data transfer speeds of 19.2Kbps and fax speeds of 14.4Kbps. Fastest standard modem available for the PowerBook 520 series

BRAND NEW! . . . . . $149

## Personal NT to NTR Upgrade

Turn your Personal NT printer into a Personal NTR with a simple logic board upgrade. The NTR features PostScript Level 2 and a fast RISC processor!

NEW W/EXCHANGE . . . $79

## PowerBook 150

- Refurbished
- 33-MHz '030 processor
- 8MB RAM, 120MB HD
- passive-matrix grayscale

$699

## PowerBook 540c

- Refurbished
- 33-MHz LC040 processor
- 12MB RAM, 320MB HD
- Built-in Ethernet
- Active-matrix color

$1099

Add a 19.2 Mercury Modem to the 540c for only $99!!

## PowerBook 5300cs

- Factory Refurbished
- 100-MHz PowerPC 603e
- 8MB RAM, 750MB HD
- Dual-scan color display

$1049

## StyleWriter 1200

- high-quality graphics/text
- 100-sheet capacity
- 720-dpi resolution
- One-year factory warranty

NEW . . . . . $149

## QuickTake 200

Store high-quality 24-bit images on a removable 2MB data card. 640x480 resolution. LCD display.

RECONDITIONED . . . . . $599

## QuickTake 150

Capture 32 standard-quality images or 16 high-quality images. Includes closeup lens.

RECONDITIONED . . . . . $329

## APPLE 11X17 COLOR INKJET

Great for large-format color printing. The M9500 Apple Color Inkjet printer features 360-dpi print resolution, four large CMYK ink tanks, SCSI and parallel ports for MacOS or Windows support.

BRAND NEW . . . . . $399

## E-Machines DoubleColor SX

- 8-bit accelerated video
- hardware pan & zoom
- for nubus-based Macs
- virtual screens feature

BRAND NEW . . . . . $99

## DuoDock BLOWOUT!

Get an Original Apple Duodock for your Duo 210 or 230. Upgradable on-board video for large displays.

*DuoDock Plus pictured

RECONDITIONED $299

## POWERBOOK 5300C

Mac OS PowerPC

100-MHz PowerPC 603e • 8MB of RAM/500MB HD supports external video • ACTIVE-MATRIX COLOR

$1499

## MACINTOSH LOGIC BOARD UPGRADES

| | |
|---|---|
| PowerMac 8100 to 8500/120 (exchange) | $999 |
| Quadra 950 to WGS 9150 (exchange) | $999 |
| PowerMac 7200 to 7500/120 (exchange) | $699 |
| Performa 630 to 6200/75 (exchange) | $399 |
| Performa 630 to 6300/100 (exchange) | $499 |
| Performa 6200 to 6300/100 (exchange) | $249 |
| Quadra 800 to PowerMac 8100/80 (exchange) | $599 |
| Quadra 660 to PowerMac 6100/60 (exchange) | $449 |
| Performa 600/IIvx to Centris 650 (exchange) | $279 |

POWERMAC 7200/75 LOGIC BOARD

$149

BRAND NEW!

(build your own Mac!)

## Internal 14.4 faxmodem

For the Performa™ series. Enjoy online services and send/receive faxes!

ONLY $29

90-day warranty

## LC Power Supplies

Only $39

Original Factory Part!

REFURBISHED

## 800, 840, 8100 POWER SUPPLIES

Original factory part from Apple. Brand new.

NEW . . . . . $199

## 6100 Power Supplies

Original Factory Part!

Only $199

NEW

## APPLE ADB MOUSE II

The original Apple ADB Mouse II. In stock!

ONLY $49

## ORIGINAL APPLE 1.44 FLOPPY

We have original Macintosh floppy drives!

Now $99 and up

## Macintosh CPUs

| | |
|---|---|
| *Performa 635 4/250/ | $499. |
| **Performa 5200 8/800/4XCD | $899. |
| *Centris 650 4/0 ('LC040 processor) | $499. |
| *Quadra 660w 4/0 | $549. |
| *Quadra 840w 0/0 | $749. |
| *Quadra 800 8/0 | $749. |
| **PowerMac 8500/120 16/1GB/4XCD | $1599. |
| *WGS 95 16/700/CD | $999. |
| *WGS 8150/80 8/500 | $1499. |
| *WGS 9150/120 16/1GB/CD | $1799. |

## Logic Boards on Sale

| | |
|---|---|
| *Performa 600 | $129. |
| *Performa 630 | $299. |
| *Performa 6200 | $399. |
| *LC | $99. |
| *LC II | $129. |
| *Mac IIci | $129. |
| *Quadra 800 | $399. |
| *Quadra 840AV | $449. |
| *Quadra 950 | $449. |

## More Logic Board Upgrades

| | |
|---|---|
| *LaserWriter IINT/NTX to IIf | exch. $399 NT/299 NTX |
| *Mac II or IIx to IIfx | exch. $249 |
| IIci to Centris 650 | exch. $299 |

## NuBus Adapters & Misc.

| | |
|---|---|
| Quadra 660AV NuBus Adapter | $49. |
| Quadra 610 Nubus Adapter | $49. |
| *Quadra 610 DOS Compatibility Card | $99. |
| Apple Color OneScanner | $199. |
| Apple Color OneScanner 600/27 | $349. |
| UMAX UC840 Scanner NEW | $299. |
| Epson ES-600C NEW | $349. |

## Video Cards

| | |
|---|---|
| E-Machines DoubleColor SX 8-bit NEW | $99. |
| RasterOps 24MX NEW | $199. |
| Radius PrecisionColor 8/1600 PCI NEW | $349. |
| Micron XCeed for Performa | $299. |
| **6100 series AV Card with adapter | $349. |
| *PowerMac HPV VRAM Card (1MB VRAM) | $179. |
| **Apple QuickDraw 3D Accelerator Card PCI | $199. |

## Monitors

| | |
|---|---|
| Apple 14" A/V NEW | $349. |
| *Apple MultiScan 17" | $499. |
| **Radius IntelliColor Display/20e NICE! | $1299. |
| **Hewlett-Packard 17" | $449. |
| **Hewlett-Packard 20" | $649. |

## Printers

| | |
|---|---|
| **Apple StyleWriter 1200 | $139. |
| *Apple LaserWriter 16/600PS | $1199. |
| **Apple Personal LaserWriter 300 | $329. |
| *Apple Personal LaserWriter NTR | $549. |
| *LaserWriter IIf w/5MB RAM | $749. |
| *LaserWriter IIg w/5MB RAM | $899. |

Laser toner cartridges sold separately

* indicates refurbished
**indicates factory refurbished

## WE STOCK MAC PARTS!

# 1•800•227•3971

• For your protection all credit cards accounts are strictly verified •

FAX (318) 424.9771 • TECHNICAL SUPPORT (318) 424.7987

CUSTOMER SERVICE (318) 424.9791 • PURCHASING/INFORMATION (318) 424.9791

1200 MARSHALL STREET • SHREVEPORT, LOUISIANA 71101

SHREVE Systems

http://www.shrevesystems.com

Products are refurbished unless indicated as "new". Prices reflect a 2% cash discount and are subject to change without notice. Returns are subject to a 15% restocking fee. Not responsible for typographical errors. Refurbished systems may include like-new components and may also include cosmetic blemishes which do not functionally impair performance of the hardware.

CIRCLE 437 ON READER SERVICE CARD

# FANTASTIC DEALS ON ALL POWER PC's!

## Umax SuperMac C500

- POWERFUL 603e PROCESSOR!
- 200 MHz Processor
- 16mb RAM
- Multimedia CD-ROM Drive
- 2.0gb Hard Drive
- Fast PCI Expansion Slots

**$899***

## PowerMac System 20" Trinitron & 24 bit Accelerated Color

Complete Package!!

only **$1699**

IMMEDIATE DELIVERY!!!

## PowerMac 8500

- POWERFUL 604 PROCESSOR!
- Up to 450 MHz Available
- 256 Level-2 Cache
- Multimedia CD-ROM Drive
- Video Capture In and Out
- 3 Fast PCI Expansion Slots

**$1599***

## Motorola StarMax Series

- POWERFUL PROCESSING
- 16mb RAM
- 512 Level-2 Cache
- Multimedia CD-ROM Drive
- 1.2gb Hard Drive
- 3 Fast PCI Expansion Slots

from **$799***

## Radius 81/110

- FASTEST NUBUS MACHINE!
- PowerMac NUBUS
- 16 MB RAM
- 256 Level-2 Cache
- Multimedia CD-ROM Drive
- 2.0gb Hard Drive

with NUBUS card purchase

**$999***

## PowerMac 7500

- POWERFUL 604 PROCESSOR!
- Up to 450 MHz
- 256 Level-2 Cache
- Multimedia CD-ROM Drive
- 3 Fast PCI Expansion Slots

**$1399***

## Macintosh IIcx

With 15" Monitor

only **$299**

## GREAT NUBUS SOLUTIONS!

*With Qualifying Monitor Purchase. All Units Factory Recertified, Up to 4 Year Warranties Available

# MONITORS

### 20" Color Monitors

| | | |
|---|---|---|
| 19" Viewable Trinitron Technology | | $599!! |
| Radius SuperMatch 20 Plus | | $849 |
| Multi-Scan 20" Trinitron | | $999 |
| 20" Multi-Resolution | NEW! | $1099 |
| Radius PrecisionColor 20v | | $1299 |
| Radius Intellicolor 20 | | $1299 |

### 21" Color Monitors

| | | |
|---|---|---|
| 21" DiamondTron Monitor | | $1299!! |
| RasterOps/Hitachi Superscan MC21 | NEW! | $1599 |
| Ikegami 21" Diamondtron | NEW! 2 YEAR WARRANTY! | $1399 |
| Radius Multiview 21 | | $1299 |
| Radius PrecisionView 21 | | $1599 |
| Radius 21" PressViews | | from $1499 |
| SuperMac 21" Color Display | | $1099 |

### 17 Inch Color Monitor

| | | |
|---|---|---|
| SuperMac 17 Multi-Scan | | $499 |
| E-machines T16 II Trinitron (16" Viewable) | | $529 |
| Radius PrecisionView 17 | | $599 |
| Radius PrecisionColor 17 | | $699 |
| Radius PressView 17sr | NEW! | $1599 |
| Portrait Display Labs 1700 | NEW! | $859 |

### 15 Inch Monitors

| | | |
|---|---|---|
| PrecisionColor Pivot | | $399 |
| Radius 15" Pivot (Grayscale & Color Options) | | from $199 |

### Two Page Grayscale Monitor

| | | |
|---|---|---|
| Radius Full Page Display | from | $499 $299 |

NEC, Sony, Mitsubishi, View.sonic, Apple Monitors Also Available!!
Need cards to drive your Monochrome/Grayscale Monitors?

# CLEARANCE

| | |
|---|---|
| Emachine video card (24bit 832x624) | $85 |
| Emachine video card (24bit 1024x768) | $99 |
| Spectrum 24 PDQ (24bit 1152x870) | $119 |
| Supermac Thunder 8 Accel. (8bit 1152x870) | $75 |
| Thunderstorm for Photoshop Acceleration | $75 |
| Atto Silicon Express 4 SCSI Accelerator | $199 |
| Video Spigot IIsi and LC (video capture) | $89 |
| Superview/Powerview (2pg's on Pwrbk & SE) | $80 |
| Radius Rockets Accel. for Mac II Series | $159 |
| SuperMatch 20" monitor w/Nubus card | $899 |
| Color Calibrator | $99 |

ALL SALES FINAL ON CLEARANCE ITEMS!!!!

# GRAPHICS CARDS

### PCI Video Cards

| | |
|---|---|
| IMS Twin Turbo 128 | $199 |
| Radius PrecisionColor 8/1600 | $399 |
| ATI XClaim VR 2mb | $219 |
| Radius Thunder 3D | $1699 |
| Radius ThunderTX 1152 | $999 |
| Radius Tempest SRP | NOW! $399 |

### NUBUS Video Cards

| | |
|---|---|
| 1600x1200 (21" or greater resolution) | from $499 |
| Thunder IIGX and Thunder IVGX series | |
| 1152x870 (21" resolutions) | from $299 |
| PrecisionColor 24x, Spectrum Power 1152, Prism GT | |
| 1024X768 (20" resolutions) | from $199 |
| PrecisionColor 24xk, Spectrum 24, Paintboard Lightning | |
| 832x624 (17" resolutions) | from $99 |
| PrecisionColor 24xp, Futura Series | |
| Se/30, LC, or PDS bus?? Call Us!! | |
| Photoshop Accelerators | $199 |
| Color Calibrators | $99 |

THOUSANDS OF CARDS IN STOCK!!! Call for prices on models not listed.

# DIGITAL VIDEO

| | |
|---|---|
| VIDEOVISION STUDIO | $999! |
| VideoVision Telecast | $1599 |
| VideoVision Studio Array | $999 |
| • 4gb Array with SCSI Accelerator | |
| Full Motion Digital Video Workstation | $2799! |
| Media 100QX and 100QX Component | $CALL |
| VidioVision PCI | $CALL |
| Video Spigot Cards | from $99 |
| • Spigot II Tape, Spigot Nubus, LC and IIsi | |
| Video Spigot Power and Pro AV | from $399 |
| • FULL MOTION, full screen capture and playback | |
| Video Vision Basic | from $599 |

MiroMotion, Bravado products available. Call for pricing.

# PROCESSOR CARDS

CLEARANCE!

| | |
|---|---|
| Apple 100 MHz 601 card | $49 |
| Apple 120 MHz 604 card | $99 |
| Apple 150 MHz 604 card | $199 |
| MAXpowr Processor Upgrades | $CALL |

# COMPUTERS

## AWESOME POWER!

### Power PC 750

only **$2999***

- 250MHz & 266MHz Processors Available
- 512K & 1mb Backside cache available
- 32 mb RAM
- 2.0gb AV Hard Drive
- Multimedia CD ROM

### Power PC 604e 400MHz

only **$2499***

- 400MHz & 450MHz Processors Available
- 512K & 1mb Backside cache available
- 32 mb RAM
- 2.0gb AV Hard Drive
- Multimedia CD ROM

### Apple Computer

| | |
|---|---|
| Macintosh IIcx w/19" Trinitron & 24 bit card | $999 |
| PowerMac 6400/180 16mb/1.2gb/cd | $999* |
| PowerMac 8100 16mb/2.0gb | $899* |
| PowerMac 8500 16mb/2gb/cd | $1599* |
| PowerMac 7300/180 16mb/2gb/cd | $1799* |
| PowerMac 8600/300 32mb/2.0gb/cd | $2699* |
| PowerMac 9600/300 64mb/4.0gb/cd | $3299* |

### Umax Computer Corporation

| | |
|---|---|
| SuperMac C500/180 | $799* |
| SuperMac C600/180 | $999* |
| SuperMac J700/180 | $1649* |
| SuperMac S900/200 | $2309* |

### Motorola Computer Group

| | |
|---|---|
| StarMax 3000/160 | $799* |
| StarMax 4000/200 | $1199* |

### Power Computing

Call for latest availability!

Call for prices on models not listed!
* with purchase of qualifying in stock monitor

# PRINTERS

### Apple LaserWriters

from **$199**

- Laserwriter, IINT, Select 360, Pro 630 plus many more!!

### QMS 860 Hammerhead

**$1799**

- 600 dpi 11 x 17 Tabloid Canon Engine
- Same Technology as HP4mv

**QMS 825** 8ppm Canon Engine, Postscript IBM/Mac **$399**

**Star SJ-144 Color Thermal** **$129**

## NEW AND FACTORY RECERTIFIED

4YEAR EXTENDED WARRANTIES AVAILABLE ON MOST PRODUCTS

# CRA Systems, Inc. www.crasystems.com 800-375-9000

CRA Systems, Inc. 300 South 13th St., Waco, TX 76701 Monday thru Friday 9AM to 7PM CST Saturday 10AM-4PM *Sales Dept.Only*
Domestic Sales sales@crasystems.com Fax 254.750.9050 Consultants/Dealers 254.754.2120 International Sales 254.754.2120
Prices reflect 2% cash discount. Prices subject to change. Not liable for typographical errors. Dealers and consultants call for quantity pricing. We ship anywhere.
All Monitors, Printers, and CPU's are Factory Recertified unless otherwise stated. Call for latest pricing & availability on NEW Options.

CIRCLE 413 ON READER SERVICE CARD

# Never Send out for a Matchprint Again!

**Amazing cost savings on full-bleed tabloid dye-sub printing!**

Save 50% While Supplies Last $6,995

Also available in a **full-page** version for **$2,995** (MSRP $6,500)

Dealer inquiries welcome

SUPERMAC **ProofPositive**

- Print full-bleed tabloid size
- Fine Line (reproduces 6 pt type)
- Adobe Postscript Level 2 RIP

**Advanced Trapping Feature:**

ProofPositive prints true CMYK separations. This means that prints from ProofPositive shows all traps and overprints exactly as they will appear on press. Otherwise, what you see on a print is not necessarily what you'll see on press.

Also, the exclusive Pipeline buffer system allows for simultaneous ripping and printing to speed workflow in high-production environments.

MSRP ~~$14,000~~

Studiotronics price $6,995

## Encad NovaJet III

- Print up to 20 feet long!
- Postscript RIP (Mac and PC)
- Two sets of 40ml ink refill bottles
- 300 dpi

1/2 Price Sale!

$3,795

## Processor Upgrades

604e PowerPC w/MVP

| | |
|---|---|
| 200 MHz | $375 |
| 225 MHz | $475 |
| 233 MHz | $549 |

## Epson Stylus 3000

- 1440 dpi Photo-Quality Printing
- Adobe Postscript RIP
- Individual CMYK Ink Cartridges
- Prints 16 x 44"

$1,729

Authorized dealers of:

Avid • Media 100 • Electric Image • Apple • Rhino • Lightwave • Scitex • Encad

studiotronics

800-653-1265

All prices reflect a cash discount. Any other method is 2% higher.

---

voice: 510-689-9488 fax: 510-689-9487 — PRICES & QUANTITIES SUBJECT TO CHANGE — Place Your Orders OnLine!

# 1-888-447-3728 • MacResQ • www.macresq.com

Toll Free

Apple Stylewriter 1200 w/ ink & cable

$89

Mac OS

**PARTS, PARTS, PARTS!!**

| | |
|---|---|
| CD 300i+ (tray) internal | $49 |
| CD 1200i (tray) internal -New | $99 |
| Philips 8x internal cd rom | $89 |
| *mounting kits OR external cases avail.* | |
| Manual inject floppies (661-0121)** | $49 |
| Auto inject floppies (661-0474)** | $79 |
| PB 100 & 500 series floppies** | $89 |
| 132 mhz PM processor upgrade cards | $69 |
| PowerBook Duo kybds (rev. F)-exch. | $39 |
| PM 6100 DOS cards | $99 |

**MONITOR MADNESS !**

90 day MacResQ warranty

| | |
|---|---|
| Apple 14" Multi-scan | $179 |
| Apple 17" Multi-scan | $499 |
| Sony 17" OEM Trinitron | $299 |
| Sony 20" OEM Trinitron | $499 |
| Apple 21" Display | $499 |

Duo 2300c 28/1 gig/14.4

$999

Duo 280c 28/1 gig/14.4

$799

Duo Dock II $299 (w/Duo purchase)

**POWER SUPPLIES:****

| | |
|---|---|
| LC thru Q 605 | $19 |
| Mac II cx /ci / Q 700 | $49 |
| Q 800 / PM 8100 | $99 |
| PM 8500 / 9500 | $109 |
| PERF. 630 thru 6300 | $69 |
| Duo Dock | $69 |
| Q 900 / 950 | $99 |
| PM 7100 (EXCH. ONLY) | $69 |
| PM 6100 (EXCH. ONLY) | $89 |
| II SI | $49 |

**Software Special !!**

new! Apple System 7.6 $18.99 (on CD with Int. Conn. Kit 1.2)

Mac·Res·Q.

**PowerBook Screen Repair....only at MacResQ !**

We can repair: scratched screens, bad pixels, lines, & dead screens- priced from $199

call for more DETAILS !

25% re-stocking fee- ALL ITEMS REFURBISHED UNLESS NOTED AS NEW • All Parts Sold With a 90 Day MacResQ Exchange Warranty • ** = Exch. Required For Orders of 10 or Less • All Major Credit Cards With NO Surcharge. •

CIRCLE 424 ON READER SERVICE CARD

---

Best Prices! Lifetime Warranty!

# DIMMs

32mb $ 92 — 168 pin — 64mb $190

# SIMMs

16mb $43 — 72 pin — 32mb $ 87

All prices are subject to change. Limited to stock on hand.

www.macsolutions.com

(800)873-3RAM

Tel:(310) 966-4444 Fax:(310) 966-4433

CIRCLE 426 ON READER SERVICE CARD

---

TOSHIBA FUJITSU OKI NEC MOTOROLA MICRON SAMSUNG MITSUBISHI

# memory

CALL FOR CURRENT BEST PRICES M-F 9-7PM SAT 10-5PM SUN 12-4PM CST

1-800-832-8802

all items are new!

OUR PRICES ARE THE BEST, NO MATTER WHAT'S BEEN ADVERTISED IN THIS MAGAZINE! MAKE SURE TO CALL US!

30pin 4MB SIMM $15

lifetime warranty!

TOP quality!

SIMM 72 PIN FPM 2x 60ns: 16MB $ 44 ea. · 32MB $ 89 ea. · 64MB $259 ea.

DIMM 168 PIN FPM 2x 60ns: 16MB $ 54 ea. · 32MB $ 99 ea. · 64MB $189 ea.

shipping from $4

www.anrweb.com

CALL OR VISIT OUR STORE AT

1221 West 6th Street Ste.c Austin, TX 78703

PH. 512-474-2414 FAX 512-474-5514

a&R computing

VISA • Mastercard • Discover • CODs

NO SURCHARGE FOR CREDIT CARDS

prices subject to change

CIRCLE 400 ON READER SERVICE CARD

---

# MEMORY

Order Today & Save!

FREE SHIPPING

MINIMUM ORDER REQUIRED

The Best Deals In Memory

www.memory-tech.com

| | DIMMS | EDO 3.3 | EDO 5V | PB3400 |
|---|---|---|---|---|
| 32Mb | $ 99 | $ 99 | $105 | $161 |
| 64Mb | $199 | $199 | $210 | $269 |

CALL OR SEE OUR SITE FOR COMPLETE LISTING

We accept MasterCard, Visa, American Express, & Discover

High Quality • Lifetime Warranty • 2k Refresh

Prices are subject to change

Fax: 512/323-6394

888 • 622 • 8355

# Sonnet Smashes Power PC Prices!

## Sonnet Sonata Processor Cards

200MHz 604e $349
225MHz 604e $399
233MHz 604e $449
240MHz 604e $499
360MHz 604eMP $599
400MHz 604eMP $699

The Sonnet Sonata™ Power PC™ 604e processor upgrade cards are the most reliable, most cost-effective upgrades available. Modernize your Power Mac 7300, 7500, 7600, 8500, 8600, 9500, 9600 SuperMac J700 or S900 series. These power-packed upgrades are 100% compatible. Add multiprocessing for super-fast Adobe Photoshop, Premier, AfterEffects, and 3-D rendering. Add 1MB cache & double performance! MP multiprocessing by Daystar Digital. Resellers call.

## Accelerate Mac LC, LC II, Color Classic, IIci, IIsi, IIvx, IIvi, IIx, IIcx, or Performa 600 to '040 Speed $149–$299

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II, or Color Classic performance 500% as fast as a stock machine. Use RAM Doubler or Virtual Memory and break the 10MB barrier (except Mac LC). Presto LC is $149, with FPU $199.

**Run System 8!** The 80/40MHz version for the Mac IIci, IIsi*, IIvx, IIvi, IIcx*, IIx* or Performa 600 increases processor performance up to 500%. The 80/40 MHz Presto at only $199 includes 128K level 2 cache, or $299 with FPU too. (*Adapter required)

Prestos are 100% software compatible and run Systems 7 or 8 (LC, IIx, IIcx Sys7 only). Prestos are easy to install in Macs' processor direct slot.

## 33 MHz 68030 Allegros Accelerate Mac SE, SE/30, II, LC, LC II Color Classic from $99

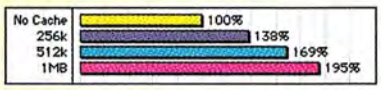
The Allegro™ LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU–all for only $99! The Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain $199. Allegro Mac II, SE/30 are $99.

## 132MHz 604 for PowerMac 6100...$399

**New!** The Sonnet Crescendo™ accelerator speeds a Power Mac 6100 or Performa 611X to run as fast as the original Power Mac 9500! Upgrade the tired 60 or 66 MHz PowerPC 601 processor to a 120 or 132 MHz PowerPC 604 CPU, respectively. The Crescendo upgrade plugs into the PDS slot for easy user installation.

Run System 8 and all applications faster than you ever thought possible for much less than the cost of a new machine. Resellers call.

## Cache Speeds!




A Power Mac with 1MB cache runs twice as fast as cache-less (200MHz 604e, MacBench 4). A cache card is the most cost-effective performance upgrade you can make. We build 'em and have the lowest volume prices. Resellers call.

| | | | |
|---|---|---|---|
| 256K | 6100/7100/7200/7500/8500 ..... $49 | 5260 ..... | $99 |
| 512K | 7200/7300/7500/7600/8500/8600 ..... | | $69 |
| 1M | 6100/7100/7200/7300/7500/7600/8100/8500/8600 ..... | | $149 |
| 256K | 4400/5400/5500/6360/6400/6500/StarMax ..... | | $65 |
| 512K | 4400/5400/5500/6360/6400/6500/StarMax ..... | | $95 |
| 1M | 4400/5400/5500/6360/6400/6500/StarMax ..... | | $199 |

## Run System 8 on a Quadra Twice as Fast!

$149–$299

Plug the Sonnet QuadDoubler™ into a Quadra 610, 660AV, 700, 900, or Centris 610*, 660AV, 650 and run virtually twice as fast as before for only $299. The QuadDoubler is System 8 compatible! Just plug the QuadDoubler into your CPU socket and power up your Mac. A CPU extraction tool is even included to simplify installation. The QuadDoubler includes a Floating Point Unit for superfast rendering or calculations. *The Centris 610 QuadDoubler runs at 80/40 MHz and is value-priced at $199 (without FPU $149).

## Add Math Coprocessor to 68040 Macs & PowerBooks

Give your Quadra, Centris, or PowerBook 520/540 a math coprocessor for internet file decompression, rendering, or Photoshop. 25MHz 68040 $125*, 33MHz 68040 with heat sink $169*. Add a full 66/33MHz 68040 with FPU to your PowerBook 520 or 540 for $199*. This also speeds 520 to 66/33MHz. Call for PB190, Duo280 FPU. *68LC040 trade-in req'd.

MasterCard

SONNET™ SONNET TECHNOLOGIES, INC.
18004 Sky Park Circle, Irvine, California 92614
714-261-2800 Fax 261-2461 sales@sonnettech.com

**800-786-6260**
http://www.sonnettech.com

VISA

VISA and MasterCard no surcharge. We used to have a surcharge; we don't anymore. Government, corporate and education P.O.s welcome. Tom manages the helpful sales team. He likes to emphasize customer service, swim and play the guitar. One year limited warranty on all products. If you step on it and break it we limit the warranty, otherwise we don't limit it too much. All returns require an authorization and are subject to a restocking fee. ©1997 Sonnet Technologies, Inc. Sonnet, the Sonnet Logo, Allegro, Crescendo, Presto, QuadDoubler, and Sonata are trademarks of Sonnet Technologies.

CIRCLE 405 ON READER SERVICE CARD

Hours: M-F 9-8 Sat 9-5 PST

Shadow Technologies
(800) 4-SHADOW
800-474-2369

PowerBook Memory
PB 3400
16M/32M/48M/64M/128M
$79/$142/$238/$279/$619
72 pin SIMMs
5V FP/EDO - 60 ns
4/8/16MB $15/24/42
32/64MB $86/248
30 pin - 60 ns
4/8/16MB $18/39/62
PB 5300
16M/32M/48M
$79/$139/$219
PB 190
16M/32M/48M
$79/$142/$229
PB 2400
8/16/32/64M
$49/79/149/309
2K
PB 2300 DUO
20M/28M/40M
$129/$148/$219
168 pin DIMMs
5/3.3V FP/EDO-60 ns
8/16/32MB $33/53/96
64/128MB $189/585
SDRAM-10 ns/100 MHz
16/32/64/128MB
$63/108/260/643
2K
DUO 210-280c
20M/28M $129/$148
MEMORY Mac's/Clones/Laptops
CPU UPGRADE PowerPC Accelerator
Lifetime Warranty!
All New!
SONNET
PPC
180 MHz to 360 MHz 604e
PMac 7300-9600/ Most Clones
CPU Upgrades Available for Other Mac's $Call
& Shipping is FREE !!
PB 1400
16M/24M/32M/40M/48M
$82/$126/$164/$208/$252
PB 520/540(c)
16/32M $75/$149
L2
PB 160/165/180(c)
8/10M $138/179/219
PB 100-170 $Call
Prices subject to change w/o notice. Call for updates
Cache
61/71/8100 256K/1M $12/$119
72/73/75/76/85/8600
256K/512K/1M
$41/$69/$139
14/6360/5/55/64/65
$59/$79/$189
StarMax
VIDEO RAM
256K SIMM $12
512K SIMM $18
1M DIMM 72-86 $21
2M ATI 9500 $69
2M EDO StarMax $29
2M SGRAM SMax $39
4M SGRAM SMax $59
Call for Volume Discounts
Govt., Edu/Corp. PO's OK with Approved Credit
Verification of Address Used to Prevent Credit Fraud
No Surcharge
VISA MasterCard
Low Price $$ Guarantee:
If ANY advertiser offers a lower price on comparable modules (new, late date code, name brand chips) Shadow will strive to BEAT their best price by 2 - 5% ! Call us LAST and SAVE !!

MEMORY
Lifetime Warranty!
BEST PRICES!
Apple® Authorized Value-Added Reseller
MAC Solutions
SDRAM Call!

| 168 Pin DIMMs | | SIMMs 72 & 30 pin | | Specials | |
|---|---|---|---|---|---|
| 16mb | $ 52 | 72 4mb/8mb | $ 15/24 | GV 56k Modems | $ 165 |
| 32mb | $ 92 | 72 16mb/32mb | $ 43/87 | GV 56k PCMCIA | $ 235 |
| 64mb | $ 190 | 30 2mb/4mb | $ 13/15 | Iomega Zip Drive | $ 140 |
| EDO/3.3vEDO | $CALL | 30 8mb/16mb | $ 43/62 | Iomega Jaz Drive | $380 |
| **PBook 5/53/14/34** | | **Cache/VRAM** | | Iomega Zip 10 pk | $ 125 |
| 16mb | $ 83 | 61/71/81 256k | $ 12 | Iomega Jaz Cart | $ 85 |
| 24mb | $ 137 | 64/54 256k | $ 60 | Quantum 2.1 gb | $245 |
| 32mb | $ 160 | 72/76/85 512k | $ 75 | Quantum 3.2 gb | $ 310 |
| 64/128 3400 | $ 285/595 | 1 mb VRAM | $ 22 | Quantum 4.3 gb | $360 |

All prices are subject to change. Limited to stock on hand. #1010

WE BUY, SELL & TRADE MACS!
CALL (800)80-WE-BUY

11933 Wilshire Blvd, West Los Angeles, CA 90025
Tel: (310) 966-4444 Fax: (310) 966-4433
www.macsolutions.com
University & School P.O.'s Welcome
VISA-Discover/MC-AMEX no surcharge

MAC Solutions
(800) 873-3RAM

CIRCLE 404 ON READER SERVICE CARD

Best Prices
RAM Modems
Drives & More
Baber Information Servives, Inc.
http://www.baber.com/mac/
800-290-0189

CIRCLE 402 ON READER SERVICE CARD

We Manufacture MEMORY
BUY DIRECT! SAVE MONEY!

| DIMMS 5v / 3.3v | |
|---|---|
| 32MB | $123 / $128 |
| 64MB | $239 / $255 |
| **SIMMS 72pin** | **SIMMS 30pin** |
| 16MB $62 | 4MB $21 |
| 32MB $112 | 16MB $65 |
| **PowerBooks** | |
| 3400-32MB $195 | 1400-24MB $167 |
| 190-24MB $160 | 5300-16MB $100 |

Prices are subject to change
Visit our Website for Complete Up-to-Date Price List
www.apcom.com/acl
www.cybertechmall.com/kpo
ACL, INC. 2155 Bering Dr., San Jose, CA 95131
800-888-0348

CIRCLE 401 ON READER SERVICE CARD

Digitek
www.macstuff.net
Mac Gifts Under $50
Call Toll Free
888-699-8787

WHY IS THE COMPETITION SHAKING?
BECAUSE
1•800•4•MEMORY
IS HERE
WE CAN BEAT
ANY QUOTED PRICE ON ANY MEMORY FOR ANY COMPUTER (NOTEBOOK, DESKTOP, PRINTERS) ANYWHERE... PERIOD!
- LIFETIME WARRANTY
- FREE TECH SUPPORT
- NO CREDIT CARD SURCHARGE
- MOST ORDERS SHIPPED SAME DAY

CALL AROUND
THEN CALL US
CHECK OUR WEB SITE FOR SPECIALS
WWW.18004MEMORY.COM

MEMORY
"Computer Show" Prices Everyday!
Mohawk Memory Co., Inc.
SIMMS ◆ DIMMS ◆ EDO ◆ ECC ◆ VRAM ◆ CACHE ◆ PRINTER ◆ LAPTOP ◆ POWERBOOK
Kingston Memory Available
Fax: (508) 897-0009
Email: simdim@mohawkmem.com
Webstore: www.mohawkmem.com
16A Waltham St. Maynard MA 01754
Visa MC Discover AMEX PO's O.A.C.
1(800) 986-6429
Good Old-Fashioned New England Service

DMS MAC & PC MEMORY

LIFETIME MEMORY REPLACEMENT GUARANTEE
30 DAY MONEY BACK GUARANTEE

Data Memory Systems
24 Keewaydin Dr.
Salem, NH 03079
Tel: 603-898-7750
Fax: 603-898-6585
E-mail: sales@datamem.com

•SIMMs •DIMMs • SDRAM •VRAM
•EDO Memory •CACHE
•Printer Memory •Modems
•Network Products
•PowerBook & Notebook Memory Upgrades

GLOBAL VILLAGE COMMUNICATION
FOCUS enhancements
iomega
Made in USA

DMS WILL NOT BE UNDERSOLD ON MEMORY PRODUCTS

Hubs & Connectors
Mac & PC to TV
NewerTECH
28.8Kbps 33.6Kbps 56Kbps!
x2 56Kbps
iomega Zip & Jaz Drives
Zip & Jaz Disks

ORDER ON-LINE 24 HOURS @ http://www.datamem.com/macworld

CALL 1-800-662-7466 TOLL FREE

University,Government & Corporate P.O.s with Approved Credit

CIRCLE 403 ON READER SERVICE CARD

DRIVES MEMORY

Quantum 30 DAY MONEY BACK GUARANTEE 3/5 Year Warranty!

2.1Gig Stratus
5400rpm/10ms Ultra SCSI 3
$225 STS32150

| | | | | | |
|---|---|---|---|---|---|
| 3.2 GB Stratus | 10ms | 5400 | US3 | STS3324 | $299 |
| 4.3 GB Stratus | 10ms | 5400 | US3 | STS3432 | $349 |
| 6.4 GB Stratus | 10ms | 5400 | US3 | STS3648 | $449 |
| 4.5 GB Atlas II | 8.0ms | 7200 | US3 | ALS3455 | $595 |
| 9.1 GB Atlas II | 8.0ms | 7200 | US3 | ALS34550 | $855 |

Seagate 30 DAY MONEY BACK GUARANTEE 5 Year Warranty!

| | | | | | |
|---|---|---|---|---|---|
| 9.1 GB Barracuda | 8ms | 7200 | FW | ST19171N | $889 |
| 4.5 GB Cheetah | 8ms | 10000 | US3 | ST34501N | $795 |
| 23 GB Elite | 8ms | 10000 | US3 | ST423451N | $1995 |

IBM 30 DAY MONEY BACK GUARANTEE 5 Year Warranty!

| | | | | | |
|---|---|---|---|---|---|
| 9.1 GB UltraStar | 8.5ms | 7200 | US3 | IBM91US | $789 |
| 9.1 GB UltraStarWIDE | 8.5ms | 7200 | US3W | IBM91USW | $799 |

MICROPOLIS 30 DAY MONEY BACK GUARANTEE 5 Year Warranty!

| | | | | | |
|---|---|---|---|---|---|
| 2.1 GB | 9ms | 5400 | US3 | MC4321 | $229 |
| 4.5 GB | 7.9ms | 7200 | US3 | MC4345 | $695 |
| 9.1 GB | 8.5ms | 7200 | US3 | MC3391 | $849 |

Western Digital 30 DAY MONEY BACK GUARANTEE 5 Year Warranty!

| | | | | | |
|---|---|---|---|---|---|
| 2.1 GB Enterprise | 8ms | 7200 | US3 | WDE2170 | $269 |
| 4.3 GB Enterprise | 8ms | 7200 | US3 | WDE4360 | $799 |

PROCESSOR UPGRADES

| | |
|---|---|
| PPC604e 180Mhz | $279 |
| PPC604e 200Mhz | $359 |
| PPC604e 225Mhz | $429 |
| PPC604e 233Mhz | $469 |
| PPC604e 240Mhz | $499 |
| PPC604e 250Mhz | $539 |
| DUAL 604e's 400Mhz | $799 |
| DUAL 604e's 450Mhz | $899 |
| DUAL 604e's 500Mhz | $1099 |
| G3* 250Mhz w/512kL2/125Mhz | $1299 |
| G3* 266Mhz w/1MBL2/177Mhz | $2199 |
| G3* 250Mhz w/1MBL2/250Mhz | $2399 |
| G3* 275Mhz w/1MBL2/275Mhz | $2999 |

SOURCE TECHNOLOGIES
800-900-4599
http://www.sourcetechnologies.com
Voice 954-725-9777 • Fax 954-725-9977

All products feature a 30 day money back guarantee. All memory products are brand new and carry a limited lifetime warranty. Government and educational PO's are welcome. No surcharges on credit cards. Prices are subject to change without notice! *Free Fedex Shipping is a limited time offer - retrictions apply!

*FREE FEDEX SHIPPING!

LIFETIME WARRANTY!

SIMMS 72 Pin 60/70ns 30 DAY MONEY BACK GUARANTEE DIMMS 168 Pin /EDO 3.3

| | | | |
|---|---|---|---|
| 4MB | $15 | 8MB | $37/39 |
| 8MB | $27 | 16MB | $55/59 |
| 16MB | $47 | 32MB | $103/115 |
| 32MB | $97 | 64MB | $199/209 |

30 PIN SIMM 60/70ns 30 DAY MONEY BACK GUARANTEE Lifetime Warranty!

| | |
|---|---|
| 1 MB | $ 9 |
| 2 MB | $ 14 |
| 4 MB | $21 |
| 16MB | $75 |

POWERBOOK RAM 500/5300/190 30 DAY MONEY BACK GUARANTEE Lifetime Warranty!

| | |
|---|---|
| 4 MB | $ 45 |
| 8 MB | $ 57 |
| 16 MB | $ 87 |
| 32 MB | $ 149 |
| 48 MB | $ 239 |
| PB 1400/2400/3400..INSTOCK!! | $CALL! |

L2 CACHE 30 DAY MONEY BACK GUARANTEE Lifetime Warranty!

| | |
|---|---|
| 256k-61/71/81xx | $13 |
| 256k/512k-72/73/75/76/85xx | $45 |
| 256k/512K-44/54/64/65xx | $59/79 |
| 1MB-61/71/81xx | $125 |
| 1MB-72/73/75/76/85/8 | $155 |

VRAM 30 DAY MONEY BACK GUARANTEE Lifetime Warranty!

| | |
|---|---|
| 256k/512k VRAM Q/C/71/8 | $13/19 |
| 1MB Powermac | $21 |
| 2MB/4MB ATI/STARMAX | $55/79 |

NOVUS VISA FedEx MasterCard

LOWEST PRICES GUARANTEED!!!

CIRCLE 406 ON READER SERVICE CARD

Free Shipping
Call for details

Digital Output
Overnight
PC or Mac

Send PC/Mac files by FTP or Priority Air Express to Imagers and for most output services, your finished work is in your hands the very next morning.

DIGITAL 4 COLOR OFFSET PRINTING

QuickMaster HEIDELBERG Print all you need!

indigo Print only what you need!

Color press proofs overnight. Upon approval, finished job in 24/48 hours. Brochures, Business Cards, Labels, Postcards, Newsletters, Booklets...

IMAGERS
Digital Production Center
INFO & QUOTES on the web
800.672.7029/404.351.5800
1575 Northside Dr.Ste.490 Atlanta 30318
www.imagers.com

CIRCLE 452 ON READER SERVICE CARD

MAC REPAIR
Mac Shop Northwest
WWW.MACSHOP.COM

- Apple™ Certified Technicians
- One-Day Service Turnaround*
- Hard Disk Repair & Data Recovery
- Up to 75% below Dealer Rates
- Component-Level Repairs
- Expert Advice and Prices by Phone
- Power Supplies & Logic Boards*
- Lifetime Repair Warranty*

Tel: 1-503-642-3456
*on many repairs. Visa/MC/AX. Fast overnight shipping available. We use genuine Apple™ parts.

1-800-MAC-SHOP

CIRCLE 458 ON READER SERVICE CARD

DIGITAL IMAGING
Slides & Negatives $3.75
4x5 chromes/negs $30
Large Posters & Displays
Scanning High & Low Res
Photo CD Scans & LVT Output
Short Run 1200 dpi Color Output
Quantity Prints, Slides, Overheads
Show & Tell 39 W 38th St., NY, NY 10018
212 840 2912 • 212 840 7953 (fax)

CIRCLE 457 ON READER SERVICE CARD

GREAT COLOR AT A GREAT PRICE.

$65 1000 Full Color Business Cards
4/0, 3.5"x2", 10 pt. Kromekote C1S

$150 1000 Full Color Post Cards
4/0, 8"x5", 10 pt. Kromekote C1S

CALL FOR GREAT PRICES ON SHORT-RUN, FULL COLOR 8.5x11 FLYERS AND CATALOGS.
Other Services: Film Output (up to 30x40; $45@8.5x11, film + Color Key); Rainbow ($20@11x17); Fiery ($6@8.5x11); NovaJet Poster (up to 50" wide, $6/sq. ft.); Drum Scan ($20@8.5x11).

Diskcom Graphics ☎ 888 • 2OUTPUT

All prices exclude shipping and tax. Price subject to change without notice. Printing prices require customers' composed files on disk.

CIRCLE 451 ON READER SERVICE CARD

MAC REPAIR & UPGRADE
24 HOUR SERVICE TURNAROUND • LONGER WARRANTY
FREE DIAGNOSTIC • COMPETITIVE PRICE

* Specialize in component repairs:
•Power Mac • Power Book • Logic boards
* Advance Exchanges

DT&T MACINTOSH SERVICES, INC.
800-622-7977

720 East Evelyn Ave., Sunnyvale, CA 94086 • Tel: 408-720-9899 • Fax: 408-720-9459
http://www.dttservice.com

Creator of
Accelerating Technologies

TOTAL IMPACT

MacWorld Booth # 3565

New PowerUP™750 Series
250, 266, 275MHz
with up to 1Mb (Backside cache)
PowerUP Single Processors
200, 225, 233, 240, 250MHz
Total PowerSMPe Application Accelerator
4x200, 4x233, 2x250MHz
Toll Free 888.343.3703
www.totalimpact.com 805.987.8704, 805.484.9469, Fax

CIRCLE 407 ON READER SERVICE CARD

AMERICAN MAC & PC

AMERICAN MEMORY

64-Bit 168pin Dimms

| | | |
|---|---|---|
| 8MB | | $34 |
| 16MB | | $59 |
| 32MB | | $109 |
| 64MB | | $199 |
| 128MB | | $758 |

32-Bit 72pin Simms

| | | |
|---|---|---|
| 4MB | | $19 |
| 8MB | | $36 |
| 16MB | | $55 |
| 32MB | | $105 |
| 64MB | | $329 |

Buy Factory Direct !! at Guaranteed low Prices

CACHE MEMORY

| | | |
|---|---|---|
| 256K | | $62 |
| 512K | | $88 |
| 256K | | $44 |
| 512K | | $74 |

VIDEO RAM

| | | |
|---|---|---|
| 1MB | | $22 |
| 2MB | | $64 |
| 2MB | | $29 |
| 4MB | | $89 |

POWERBOOK RAM

| | 8MB | 16MB | 32MB | 48MB | 64MB |
|---|---|---|---|---|---|
| PB500 | $74 | $94 | $194 | | |
| PB 190/5300 | $79 | $100 | $189 | $289 | |
| PB150 | $89 | | | | |
| PB1400 | $89 | $109 | $189 | $289 | |
| PB3400 | | $109 | $189 | $289 | $419 |

DRIVES

| Quantum | Description | Int. | Ext. |
|---|---|---|---|
| 2.1GB | Stratus.5400 | $239 | $289 |
| 2.1GB | Atlas2.7200 | $349 | $389 |
| 3.2GB | Stratus.5400 | $299 | $349 |
| 4.3GB | Stratus.5400 | $349 | $399 |
| 4.5GB | Atlas2.7200 | $644 | $699 |
| 6.4GB | Stratus.5400 | $469 | $519 |
| 9.1GB | Atlas2.7200 | $889 | $939 |

IDE DRIVES

| | | | |
|---|---|---|---|
| 1.6GB | Stratus.5400 | $134 |
| 2.1GB | Stratus.5400 | $165 |
| 3.2GB | Stratus.540 | $201 |
| 4.3GB | Stratus.5400 | $240 |
| 6.4GB | Stratus.5400 | $335 |

REMOVABLE

| | | |
|---|---|---|
| Iomega | Zip 100MB | $137 |
| | Jaz 1GB Ext w/Cart | $349 |
| Syquest | Syjet1.5GB | $429 |
| Yamaha | 4x/6x cdr ext | $589 |

MEDIA

| | QTY 1-2 | QTY 3-5 | QTY 10+ |
|---|---|---|---|
| Jaz | $86 | $82 | $79 |
| Zip | $17 | $15 | $13 |
| SyJet | $96 | $92 | $89 |
| CD Media | $5 | $4 | $3 |

ACCELERATORS

| | | |
|---|---|---|
| XLR8 | MACh SPEED 180MHz | $319 |
| | MACh SPEED 200MHz | $484 |
| | MACh SPEED 225MHz | $624 |
| | MACh SPEED 233MHz | $749 |
| newer tech | MAXpowr 200MHz | $619 |
| | MAXpowr 225MHz | $748 |
| | MAXpowrPro750 250MHz | $1259 |
| | MAXpowrPro750 266MHz | $2214 |

Check our web page!! http://www.americanmac.com

(888) 910-0900

We accept government & Universities PO's

Pricing is subject to change without notice!

## DATA RECOVERY: 800-440-1904

### 7 good reasons to choose DriveSavers:

1. We're the most trusted and respected data recovery specialists.
2. 24-hour, onsite, and weekend service available.
3. Proprietary techniques so advanced we retrieve data others might simply abandon.
4. Over 12 years of data recovery experience.
5. Certified to maintain most drive warranties.
6. Featured by CNN, NextStep, C-Net, Forbes.
7. All storage devices: DOS, Win95, WinNT, OS/2, Mac OS, UNIX, Sun, SGI, Novell.

©1997 DRIVESAVERS, INC.

Clip and save this ad. Visit DriveSavers at: www.drivesavers.com

DRIVESAVERS, INC. 400 BEL MARIN KEYS BLVD., NOVATO, CA 94949, INTL.: 415-382-2000, FAX: 415-883-0780

CIRCLE 453 ON READER SERVICE CARD

## Data Recovery in hours.

- Over 10 years of experience with clients worldwide including Apple, NASA, HP, and FedEx.
- We've recovered more than half-a-million megabytes of Mac Data alone.
- You only pay when there's a recovery.
- Express One-Day Service is available.
- Call 24 hours a day.

LAZARUS DATA RECOVERY

*Working at the speed of business.*

800-341-DATA

415-495-5556 • FAX 415-495-5553 • RESTRICTIONS MAY APPLY
381 Clementina Street • San Francisco, California 94103

CIRCLE 454 ON READER SERVICE CARD

## PROFESSIONAL DATA RECOVERY SERVICES.

*Hard Drives, Floppy Drives, Syquest, EZ-135, ZIP, JAZ, Optical & Bernoulli.*

TOTAL RECALL® THE DATA RECOVERY COMPANY™

800 743-0594 VISIT US AT... www.recallusa.com

2462 WAYNOKA ROAD • COLO. SPRINGS, CO 80915 • TEL (719) 380-1616 • FAX (719) 380-7022

CIRCLE 456 ON READER SERVICE CARD

## ONTRACK UNVEILS REMOTE DATA RECOVERY TECHNOLOGY

**Ontrack Data Recovery**, the leading provider of data recovery services, will be **introducing ONTRACK RDR™ Remote Data Recovery technology at COMDEX** through interactive demonstrations. This new offering will allow ONTRACK to perform fast and complete data recovery services directly on your computer via modem link.

See us at COMDEX booth# S7716

Ontrack®
*Defining Data Recovery Solutions Worldwide*
1.800.872.2599
www.ontrack.com

Stop by booth# S7716 at COMDEX to get a free copy of Data Advisor™ data loss diagnostic software or visit our website to download your free copy!

©1997 ONTRACK Data International, Inc.

CIRCLE 455 ON READER SERVICE CARD

## WE SPECIALIZE IN WHOLESALE WATERLESS COLOR PRINTING

**1000 FULL COLOR BUSINESS CARDS FOR $100** Sug. retail price $179
**1000 FULL COLOR POSTCARDS FOR $149** Sug. retail price $249

Printed waterless at 300 line screen from your computer files on Super Premium 10pt. Kromekote with our FREE scratch-resistant aqueous coating.

- BUSINESS CARDS
- POSTCARDS
- CD INSERTS
- CD TRAY LINERS
- BROCHURES
- BOOKLETS
- NEWSLETTERS
- POSTERS & MORE

## FEATURING 300 LINE SCREEN WATERLESS OFFSET PRINTING

Rates for Brochures, Booklets and Flat Sheets are also available.

4-COLOR WATERLESS SPECIAL

**1000 Presentation Folders**
9" x 12" 4-color folders with 4" pockets and BC slit printed from your files at 300 line screen on 10 Pt. Kromekote with Free Aqueous Coating.
**Get 2,000 for only $2199**

$1489 SUGGESTED RETAIL $2299

GRAPHIC ARTS AVAILABLE

Copy Craft PRINTERS, INC.

4413 82nd Street • Lubbock, TX 79424 • FAX: 806.794.1305

QUARK Authorized Service Bureau

Factory Authorized COREL Service Bureau

Email your requests for printing quotes to request@copycraft.com

**1.800.794.5594**

CALL TODAY FOR A **FREE** COPY OF OUR **NEW** FULL COLOR CATALOG

Visit http://www.copycraft.com for more 4-Color Specials!

CIRCLE 450 ON READER SERVICE CARD

# DIRECTORY

Macworld DIRECTORY

## ACCOUNTING SOFTWARE

### COMPLETE BUSINESS SOLUTIONS

e-stop shop for hardware, software, financing and services for y size business. Our accounting programs range from basic to phisticated multi-user systems plus Point of Sale, Inventory, oicing and Payroll packages. Call for a catalog or e-mail us at o@maxworld.com.

**MAX COMPUTERS • (800) 656-6299**

1506 25th Street, San Francisco, CA 94107
tp://www.maxworld.com/accounting • Fax (415) 695-0257

CIRCLE 459 ON READER SERVICE CARD

## BUSINESS OPPORTUNITIES

### Personal Computer Owners

Personal computer owners can earn $1000 to $5000 monthly selling simple services that are performed by your personal computer. Work at home in your spare time. FREE list of 100 best services to offer. Write or call:

**C. O. B. I. Y.**

P.O. Box 12107, La Jolla, CA 92039
Call 24 hrs: 800-714-2332 Ext. 145

CIRCLE 460 ON READER SERVICE CARD

## CD ROM

### CD-ROM Production Services

- All formats: Mac, ISO, Hybrid, Mixed Modes
- Premastering, beta testing, or archiving
- Mass Replication available, any quantity
- Personal, Knowledgable Service for 10 Years!
- Certified Apple Developer • Low prices/fast delivery

**NORTHEASTERN DIGITAL RECORDING**

2 Hidden Medow Ln, Southboro, MA 01772
508-481-9322 Fx:508-624-6437 CDNDR@aol.com

CIRCLE 461 ON READER SERVICE CARD

## COMPUTER INSURANCE

### INSURES YOUR MAC

ne Computerowners [SM] insurance policy repairs or replaces ardware, media and purchased software. $49 a year covers up $2,000 of equipment against theft, fire, accidents, power urge, natural disasters and more! $50 deductible. Call for mmediate coverage or information. 1-800-800-1492.

**SAFEWARE, The Insurance Agency, Inc.**

5620 N. High Street, PO Box 656
Columbus, Ohio 43085

CIRCLE 462 ON READER SERVICE CARD

## DISK DUPLICATION

### CD-ROM MASS-REPLICATION

- Quantities from 500 discs to 10,000,000 +
- ISO 9000-certified manufacturing
- Complete,innovative printing & packaging: cardboard, Tyvek®, & jewel-box packaging options available.

**OASIS® DUPLICATION**

Contact Micah Solomon, President directly:
micah@oasiscd.com • 800/697-5734
Fax 540/675-2500 • FLint Hill, VA 22627

CIRCLE 463 ON READER SERVICE CARD

## DRIVE SALES & REPAIRS

### FLOPPY DRIVE REPAIR & SALES

Mac 3.5" 400k, 800k, & 1.44 MEG .(Repair) . . . $40.00
Advanced Exchange . . . . . From $40.00
New & Refurbished Hard Drive & Floppy Drive Sales. .Call Price includes most parts, cleaning & alignment. 1yr warranty on repair, 2yrs on new drives. Schools + Gov't. PO's accepted. Expert Data Recovery.

**UPTIME COMPUTER SUPPORT SERVICES**

http://www.scvnet.com/~uptime • 23633 Via Primero
Valencia, CA 91355 • 805-254-3384 • Fax 805-254-1950

CIRCLE 464 ON READER SERVICE CARD

## DIRECTORY CONTACTS 800.825.4237

### ADVERTISING REPRESENTITIVES

| | | |
|---|---|---|
| Michelle LeWinter | mlewinte@zd.com | x5122 |
| ric Birnbaum | ebirnbau@zd.com | x5043 |
| Monifa Kelly | mkelly@zd.com | x5155 |
| essica Turko | jturko@zd.com | x5140 |
| isala Beatty | lbeatty@zd.com | x5153 |

### ADVERTISING SALES MANAGER

| | | |
|---|---|---|
| om Foran | thomas_foran@zd.com | x5145 |

### DIGITAL ADVERTISING COORDINATOR

| | | |
|---|---|---|
| rian Mullin | brian_mullin@macworld.com (415) 267 - 1735 | |

## GENEALOGY SOFTWARE

### REUNION® 5- New upgrade!

BETTER THAN EVER! Sound & video, Web publishing, drag-and-drop editing. Unlimited individuals, events, facts, and sources. Create large wall charts: Ancestor and Descendant, plus new Relative and Timeline charts with photos - great for family reunions. To order call MacWarehouse 800-255-6227. Visit our our Web site: www.LeisterPro.com

**LEISTER PRODUCTIONS**

P.O. Box 289 Mechanicsburg, PA 17055
tel: (717)697-1378 • e-mail: info@LeisterPro.com

CIRCLE 465 ON READER SERVICE CARD

## POWERBOOK BATTERIES & RAM

### Your Best Battery & RAM Source!

From PB 100 to 3400, Mac Plus to Power Mac 9600, Erudite has what you need at prices that won't slow you down. We feature power products from BTI and Absolute, memory and 56K modems from Viking - all new & fully warranted. Call, e-mail or shop online for your best price! Visa/MC/Amex/Discover Accepted.

**ERUDITE PRODUCTS CORP.**

409 Grand Ave., Englewood, NJ 07631 800-310-8505
EMail: sales@EPC-Online.Com, www.epc-online.com

CIRCLE 466 ON READER SERVICE CARD

## RELIGION

### Bible Study on Disk or CD-Rom

Full Featured. Fast & Friendly Bible study software. As the leader in Bible study software since 1981 we have continued to listen to our customers and provide them with the tools they need. Call for a FREE catalog. http://www.brs-inc.com/bible

**BIBLE RESEARCH SYSTEMS**

2013 Wells Branch Pkwy. #304, Austin, TX 78728
(800) 423-1228 (512) 251-7541

CIRCLE 467 ON READER SERVICE CARD

## RELIGION

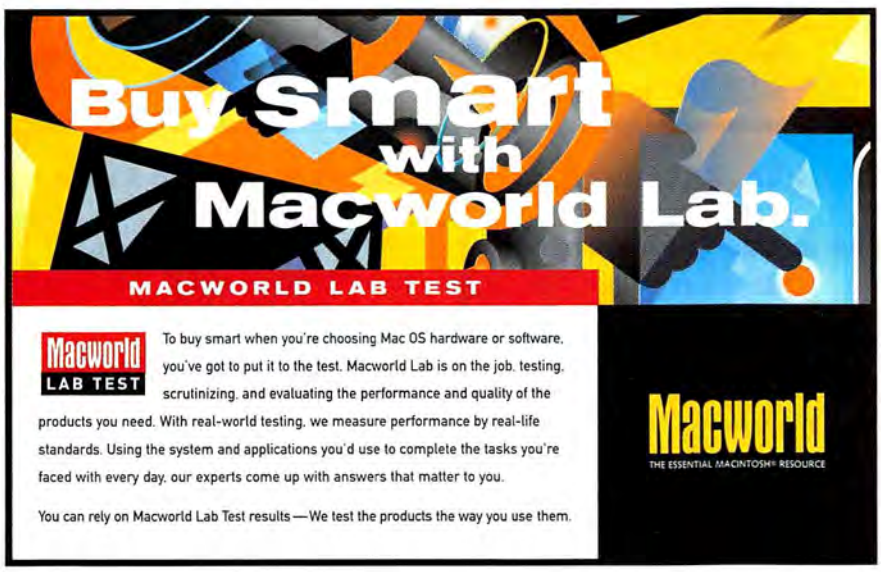
### ONLINE BIBLE CD

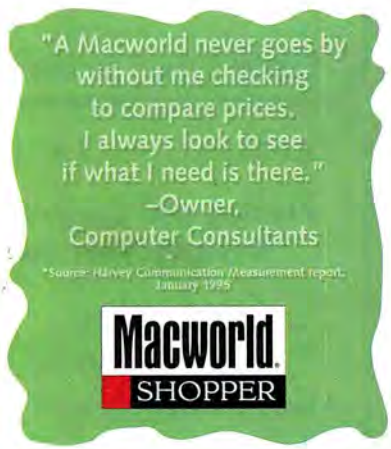
"Fast, Full Featured and Affordable"
"The standard by which all others are judged"
NIV NASB NKJV NRSV KJV w/Strongs + others
Lexicons, X-Refs, Topics, Dicts, Commentaries, Maps
Deluxe CD $90 Classic CD $40

**BY THE NUMBERS, INC. • (800) 554-9116**

RR 1 Box 75 Sutton NH 03221-9301
www.bythenumbers.com

CIRCLE 468 ON READER SERVICE CARD



# Macworld IN NEW YORK AT J&R COMPUTER WORLD

## GET CREATIVE WITH YOUR MACINTOSH!

ENTER TO WIN FREE PRIZES!

# Macintosh Holiday Showcase

Get inspired and learn something new every day at this special four-day extravaganza—from Thursday, Dec. 4 to Sunday, Dec. 7! Drop by and learn how to get the most out of your Mac. Get tutorials on the hottest Mac titles from leading software companies like Apple, Microsoft, IBM, MetaCreations, Claris and more. Meet with the experts from *Macworld* magazine. Plus, demo products all around the store from the latest Mac games to the coolest laptops from Apple. You can also enter to win FREE prizes and giveaways! So mark your calendar for the Macintosh Holiday Showcase—Do it now!

A Special Four Day Extravaganza!
- Daily In-Store Demos
- FREE Workshops on the Mac
- Special Theme Events
- Prizes and Giveaways

Demo the latest...
- Digital Cameras
- Kids Software
- Games for the Holiday Season
- And More!

J&R COMPUTER WORLD
15 Park Row
New York, NY 10038
Call 212/238-9000 for information

**Special Events Include:**

THURSDAY, DECEMBER 4

**Playing and Composing Music On your Mac**

- "Music Creation" by G-Vox
- "CD-ROM Creation" by Philips
- Learn how to play the guitar

FRIDAY, DECEMBER 5

**Games and Entertainment On your Mac**

- "Gaming and Edutainment" by IBM
- Demo the best Mac games like Riven and Duke Nukem 3D
- Test the latest gamepads and joysticks

SATURDAY, DECEMBER 6

**Your Macintosh Home Workshop**

- "ClarisWorks for Kids" by Claris
- "MacOS8, Features and Benefits" by Apple
- Create your own web page

*continued from page 194*

"Bartender!" shouts Steve. "You don't have a copy of *Wired* here, do you? I've got to read up on this crazy reality!"

The bartender glares. "I don't know what *you're* wired on, pal, but either stop talking crazy or get outta my shop."

"No such thing as *Wired*," whispers Claris. "Never was. Before you wished the Mac away, most magazines were produced entirely on the Mac. Besides, *Wired* would be awfully thin without the Web."

"Without the—now, wait just a minute!" Horrified, Steve rushes over to one of the PCs and connects to the Internet. "You call this the Net? It looks like a text-only BBS—and there's practically nobody online! Where's Navigator? Where's Internet Explorer? Where's the *Web*, for Pete's sake?"

"Oh, I see," Claris smiles sympathetically. "You must be referring to all those technologies that spun off from the concept of a graphic interface. Look, Steve. Until the Mac made the mouse standard, there was no such thing as point and click. And without clicking, there could be no Web . . . and no Web companies. Believe it or not, Marc Andreesen works in a Burger King in Cincinnati."

Steve scoffs. "Well, look, if you apply that logic, then PageMaker wouldn't exist either. Photoshop, Illustrator, FreeHand, America Online, digital movies—*all* that stuff began life on the Mac."

"You're getting it," Claris says. He holds up a copy of *Time* magazine. "Check out the cover price."

Steve gasps. "*Eight bucks?* They've got a lot of nerve!"

"Labor costs. They're still pasting type onto master pages with hot wax."

"You're crazy!" screams Steve. "I'm going back to my office at Apple!" He drives like a madman back to Cupertino—but the sign that greets him there doesn't say, "Welcome to Apple." It says, "Welcome to Microsoft South."

"Sorry, Steve; Apple went out of business in 1985," says Claris. "You see, you really did have a wonderful machine! See what a mistake it was to wish it away?"

Steve is sobbing, barely listening. "OK, then—I'll go to my office at Pixar!"

"You don't *have* an office at Pixar," Claris reminds him. "There was no Mac to make you rich enough to *buy* Pixar!"

Steve has had enough. He rushes desperately back to the icy bridge over the river. "Please, God, bring it back! Bring it back! I don't care about market share! Please! I want the Mac to live again!"

Music, wind, heavenly voices—and then snow begins softly falling.

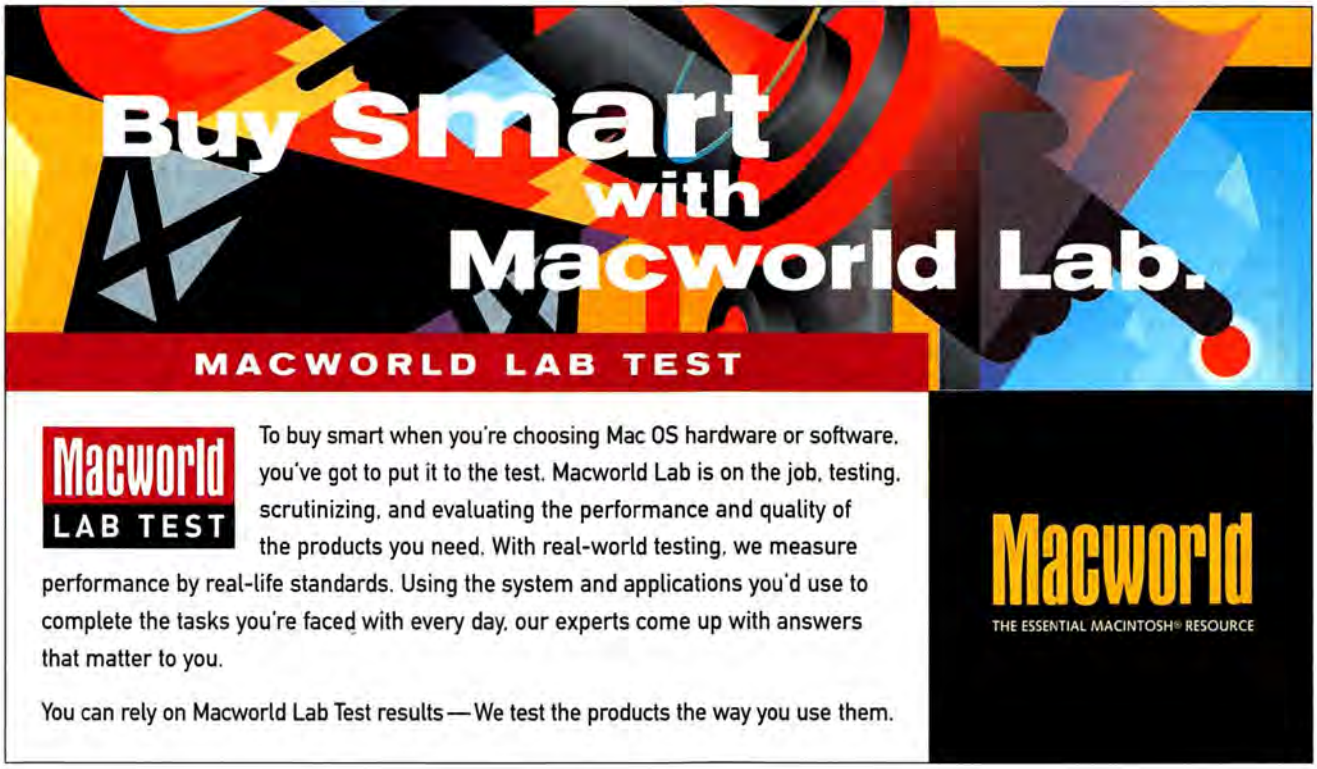
"Hey, Steve! You all right?" calls out Steve's friend Larry from a passing helicopter. Steve pats his pocket—the Newton is there again! It's all back! Steve runs through the town, delirious with joy. "Merry Christmas, *Wired!* Merry Christmas, Internet! Merry Christmas, wonderful old Microsoft!"

And now his office is filled with smiling people whose lives the Mac has touched. There's old Mr. Chiat/Day the adman. There's Yanni the musician. And there's Mr. Spielberg the moviemaker. As the Apple board starts singing "Auld Lang Syne," somebody boots up a Power Mac.

Steve smiles at the startup sound. "You know what they say," he tells the crowd. "Every time you hear a startup chime, an angel just got his wings." **m**

DAVID POGUE's latest book is *The Microsloth Joke Book* (Berkeley, 1997). If the World Wide Web still exists, his home page is www.pogueman.com.

**January 1998, Volume 15, Number 1** Macworld (ISSN 0741-8647) is published monthly by Mac Publications, L.L.C. Editorial and business offices: 501 Second St., San Francisco, CA 94107. 415/243-0505. Subscription orders and inquiries should be directed to 303/665-8930. Subscription rates are $27 for 12 issues, $54 for 24 issues, and $81 for 36 issues. Foreign orders must be prepaid in U.S. funds with additional postage. Add $18 per year for postage for Canada and Mexico subscribers. Add $69 per year for postage to all other countries. Periodicals postage paid at San Francisco, California, and at additional mailing offices. **Postmaster:** Send address changes to Macworld, P.O. Box 54529, Boulder, CO 80328. Printed in the USA.



# The Desktop Critic

by David Pogue

## It's a Wonderful Machine

THE SWEETEST CHRISTMAS MOVIE FRANK CAPRA NEVER MADE

I GUESS I SHOULDN'T HAVE gone to a party where the eggnog was spiked, and maybe I shouldn't have watched the movie *It's a Wonderful Life* while leafing through *MacWeek*. But anyway, I had the *weirdest* dream last night—like a bizarre black-and-white movie that went like this: Jimmy Stewart stars as Steve "Jobs" Bailey, who runs a beleaguered but beloved small-town computer company. For years, big monopolist Bill "Gates" Potter has been wielding his power and money to gain control of the town. And for years, Steve has fought for survival: "This town needs my measly, one-horse computer, if only to have something for people to use instead of Windows!"

But now an angry mob is banging on Apple's front door, panicking. "The press says your company is doomed!" yells one man. "You killed the clones! We're going to Windows!" calls another. "We want out of our investment!" they shout.

Steve, a master showman, calms them. "Don't do it! If Potter gets complete control of the desktop, you'll be forced to buy his bloatware and pay for his cruddy upgrades forever! We can get through this, but we've got to have faith and stick together!" The crowd decides to give him one more chance.

But the day before Christmas, something terrible happens: On his way to the bank, the company's financial man, Uncle Gilly, somehow manages to lose $1.7 billion. With eyes flashing, Steve grabs the befuddled Gilly by the lapels. "Where's that money, you stupid old fool? Don't you realize what this means? It means bankruptcy and scandal! Get out of my company—and don't come back!"

Desperate and afraid, Steve heads to Martini's, a local Internet café, and drowns his sorrows in an iced cappuccino. Surfing the Web at one of the café's Macs, all he finds online is second-guessing, sniping by critics, and terrible market-share numbers.

As a blizzard rages, Steve drives his car crazily toward the river. "Oh, what's the use?!" he exclaims. "We've lost the war. Windows rules the world. After everything I've worked for, the Mac is going to be obliterated! Think of all the passion and effort these last 15 years—wasted! Think of the billions of dollars, hundreds of companies, millions of people . . . ." He stands on the bridge, staring at the freezing, roiling river below—and finally hurls himself over the railing.

After a moment of floundering in the

chilly water, however, he's pulled to safety by a bulbous-nosed oddball. "Who are you?!" Steve splutters angrily.

"Name's Clarence—I mean Claris," says the guy. "I'm your guardian angel. I've been sent down to help you—it's my last chance to earn my wings."

"Nobody can help me," says Steve bitterly. "If I hadn't created the Mac, everybody'd be a lot happier: Mr. Potter, the media, even our customers. Hell, we'd all be better off if the Mac had *never been invented at all!*"

Music swirls. The wind howls. The tattoo on Steve's right buttock—Buzz Lightyear from *Toy Story*—vanishes.

Steve pats the empty pocket where he usually carries his Newton. "What gives?"

"You've got your wish," says Claris. "You never invented the Mac. It never existed. You haven't a care in the world."

"Look, little fella, go off and haunt somebody else," Steve mutters. He heads over to Martini's Internet café for a good stiff drink. But he's shocked at the difference inside. "My God, look at the people using these computers! Both of them—they look like math professors!"

"They *are*," says Claris.

"What is this, a museum? It looks like those computers are running DOS!"

"Good eye!" says Claris. "DOS version 25.01, in fact—the very latest."

"I don't get it," Steve says.

"DOS is a lot better and faster these days, but it hasn't occurred to anybody to market a computer with icons and menus yet. There's no such thing as Windows—after all, there never was a Mac interface for Microsoft to copy."

"But this equipment is ancient!" Steve exclaims. "No sound, no CD-ROM drive, not even 3.5-inch floppies!"

"Those aren't antiques!" Claris says. "They're state-of-the-art Compaqs, complete with the latest 12×, 5-inch–floppy drives. Don't forget, Steve: The Mac introduced and standardized all that good stuff you named."

"But that's nuts!" Steve explodes. "You mean to tell me that the 46 percent of American households with computers are all using *DOS?*"

"Correction: All *9* percent of American households," says Claris cheerfully. "Without a graphic interface, computers are still too complicated to be popular."

*continues on page 193*

PETER HOEY

# I am...

Discover Creator2, drawing and page layout software made expressly for designers. This streamlined software is tailored to the way you work, providing the freedom to tinker, rearrange, and adjust your designs to achieve the perfect look. There's no learning curve, no software adjustment period, no wading through features designers never use. Just your creativity and Creator2's powerful drawing, layout, image-handling, trapping, and typography controls.

# therefore I create.

With the ability to include multiple page sizes in a document, view and edit separated graphics within the application, and use both text and image style sheets, Creator2 is ideal for ads, brochures, annual reports, packaging, letterhead, and other graphic arts collaterals. And, Creator2 is customizable so you can add capabilities specific to your workflow.

Creator2 lets you do what you do best. **Design.**

**To learn more about Creator2 call 1-800-245-9278 or visit http://creator2.multi-ad.com**

MULTI-AD CREATOR2

*The Next Generation Design Tool*

Multi-Ad Services, Inc. • 1720 W. Detweiller Dr. • Phone (309) 692-1530 • http://www.multi-ad.com ©1997 Multi-Ad Services

**Circle 187 on reader service card**

# Leadership by example.

You don't lay claim to leadership. Rather, you set an example that others will follow.

From the beginning, Turbo Mouse has set an example unmatched by any other input device. An example that has earned Turbo Mouse more awards than any input device in Macintosh history. An example that has led Macworld to recently proclaim that Kensington's Turbo Mouse should be "at the top of everybody's short list of trackballs to consider."

For more information, call 800-535-4242.

**KENSINGTON®**

**www.kensington.com**

Editors' HomeOffice Computing Pick · MacWorld 8 Years · MacUser Rated November 1994 · Macworld Editors' Choice ★★★★ September 1997 · Publish '97 Readers' Choice Award · Macworld Star Rating ★★★★

Turbo Mouse and Kensington are registered trademarks of Kensington Microware Limited. All other trademarks are the property of their respective owners. © 1997 Kensington Microware Limited 9/97

**Circle 12 on reader service card**